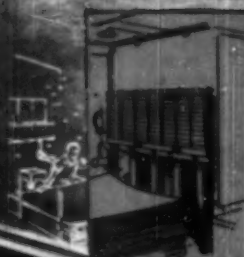


AMERICAN ★ BUILDER

JANUARY 1950
PRICE 50 CENTS

THE WORLD'S GREATEST BUILDING PAPER



In This Issue
Plywood Today
What's ahead for
Building in 1950?

HONEYWELL COMFORT...



...begins with the *Blueprint*

WHATEVER a house may cost, it will not be a real home unless it is comfortably heated. Turn this fact into a strong selling feature for every home you build. Honeywell national advertising is constantly preparing prospective home buyers for just such an approach.

Here are some of the Honeywell controls and control systems that can be selected, depending upon the size and type of home.

CHRONOTHERM® Electric Clock Thermostat



Every home should have the convenience and economy of automatic clock thermostat regulation. Chronotherm automatically switches to lower fuel-saving temperature at bedtime. Then in the morning, before the family gets up, it restores daytime comfort temperature. Chronotherm will save 10% or more fuel and will give far greater heating comfort and convenience.

ELECTRONIC MODUFLOW® Control Systems

The new Honeywell Electronic Moduflow control system will give an entirely new conception of even, continuous heating comfort. Electronic Moduflow combines the magic speed and sensitivity of electronics with the Moduflow principle of continuous heat flow. It does away with drafts and cold floors caused by intermittent heat supply.



Electronic Relay



Electronic Thermostat

ZONE CONTROL

In larger homes and ranch-type homes, more uniform temperatures will be obtained throughout the house by an Electronic Moduflow system with two or more thermostats located in different sections of the house. In basement recreation rooms, for example, a separate thermostat will maintain just the desired temperature without affecting the rest of the house.

RADIANT PANEL HEATING

Because of its extreme sensitivity and dependability, an Electronic Moduflow control system will insure best results from radiant panel heating installations.

For further information about Honeywell Controls and Control Systems, contact the Honeywell branch office in or near your city. Or, mail the coupon for the 3 free booklets, "Electronic Moduflow," "Electronic Moduflow for Radiant Panel Heating," "Zone Control and Individual Room Control."

Trade Mark

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
2804 Fourth Avenue South Minneapolis 8, Minnesota

Please send me the 3 free booklets on
Electronic Moduflow and Zone Control.

Name _____

Address _____

City _____

Zone _____

State _____

WATCH FOR ANNOUNCEMENT OF THE MOST IMPORTANT WINDOW DEVELOPMENT IN YEARS

★ SAVES YOU MONEY

... first cost and on the site!

★ SAVES YOU TIME

... amazing simplicity of installation!

★ SAVES YOU TROUBLE

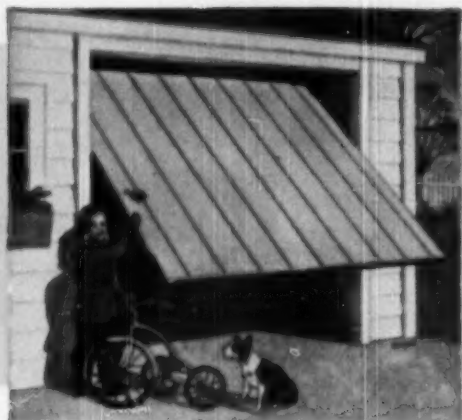
... stops annoying call-backs!

- Another Fenestra "First" by
- DETROIT STEEL PRODUCTS COMPANY, Detroit, Michigan
- America's Oldest and Largest Steel Window Manufacturer

Fenestra

STANDARDIZED

{ WINDOWS
PANELS
DOORS



STRAND GARAGE DOOR... Value Leader for '50

Dollar for dollar, you give your customers more in the Strand all-steel garage door. That's why this is the national "best seller" among garage doors, installed by thousands of builders every month.

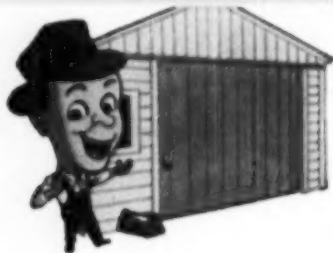
Large scale production of only 3 models, in one plant, makes this value possible. Strand quality is backed by a leading manufacturer with 45 years in the building industry!

Durable... of Galvannealed Steel..

The strength of steel—that can't warp, sag, rot or shrink, means a satisfied customer for you on every installation. Strand doors are galvannealed for rust protection, with a heavy galvanized zinc coat, plus high temperature heat treating that provides an excellent base for paint—no special priming coat needed. Welded construction adds to durability—no bolts or screws to work loose. Easy to operate—for a lifetime.



Easiest, Quickest to Install



The one piece door leaf eliminates field assembly of single doors. Packaged hardware is factory-assembled, and serves as an installation templet. Only ordinary tools are required—no "factory trained expert" needed; installation is surprisingly quick and easy. And—Galvannealing makes painting easier.

Strand doors are available in Canopy and Receding (track) types for 8' x 7' opening; and in a double-garage door (receding type) for 16' x 7' opening, unobstructed by centerpost. Order from your dealer, or mail the coupon for information and dealer's name.

ALL-STEEL • GALVANNEALED • OVERHEAD
STRAND GARAGE DOORS
FOR SINGLE AND DOUBLE GARAGES

Tenestra
BUILDING
PRODUCT

STRAND GARAGE DOOR DIVISION
Detroit Steel Products Company
Dept. AB-1, 2250 E. Grand Blvd.
Detroit 11, Michigan

Please rub detailed description of Strand all-steel Garage Doors,
for 8' x 7' and 16' x 7' garage openings.

I am a ☐ Builder ☐ Dealer ☐ Prospective Owner ☐ Other

Name _____
Address _____
City _____
State _____

AMERICAN BUILDER

Founded—1879

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Railway Engineering & Maintenance

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Marine Engineering &

Shipping Review

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Locomotive Cyclopaedia

Railway Engineering &

Maintenance Cyclopaedia

Marine Catalog & Buyers Directory

Books covering Building and Transportation



Volume 72

JANUARY, 1950

Number 1

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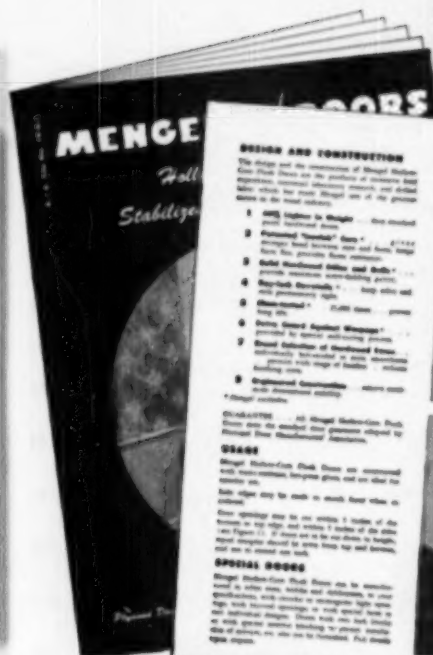
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LET FACTS AND SPECIFICATIONS

PROVE THE SUPERIORITY OF

MENGEL

Flush DOORS



DESIGN AND CONSTRUCTION

The design and the construction of Mengel Flush Doors are the products of extensive door experience, unusual laboratory research, and strict adherence to the Mengel way of the product door in the wood industry.

1. **Lighter in Weight** — One standard door is 100 lbs. lighter than a standard door.
2. **Unmatched "Sound"** — Mengel Flush Doors have been tested and found to be the quietest door in the industry.
3. **Build Resistant to Warpage** — Mengel Flush Doors are built with a special core that prevents warping.
4. **Special Glue** — Mengel Flush Doors are built with a special glue that prevents warping.
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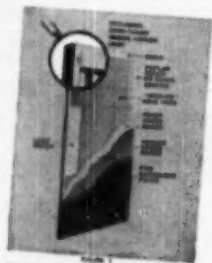
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You know and we know that "all flush doors are NOT just alike." Door qualities vary as much as the experience, know-how, efficiency and integrity of their makers.

Mengel Flush Doors — Hollow Core and Solid Core — are built the way you'd want them built, of the materials you yourself would choose. Their specifications prove it. Finer or more dependable doors cannot be obtained at comparable prices.

Get the facts and specifications on Mengel Flush Doors, as contained in the A. I. A. Catalog illustrated above. Use the coupon for convenience.

BETTER DOORS, AT COMPETITIVE PRICES

THE MENGEL COMPANY

Plywood Division, Dept. AB-5, Louisville 1, Ky.

Gentlemen: Please send me a free copy of the complete "A. I. A. File" Data Book on Mengel Flush Doors.

Name

Firm

Street

City State



Publisher's Page



American Builder Wants No Subsidy

IT IS ESSENTIAL to the welfare of the American people that we stop the drift into socialism. If we do not stop it soon, it will not be possible to stop it at all, and the United States will be as badly off in ten years as Great Britain is now.

The trend toward socialism can be stopped only by people who are honestly opposed to it. No man is honestly opposed to socialism who favors socialistic policies that he believes will benefit him; and there are millions of business men who do this. You can find them in every community loudly opposing socialism in general and socialistic policies intended for the benefit of others, and at the same time advocating the adoption of socialistic policies for their own benefit and eagerly seeking and accepting the benefits of socialistic policies already in effect.

One kind of socialistic policy that has become widely prevalent by which many are benefiting—or believe they are benefiting—and which is sapping the foundations of the American political and economic system is that of collecting taxes to pay subsidies. The *American Builder* often has inveighed against all subsidies. Now it is charged that the large deficit being incurred by the postal department is partly due to the subsidizing of newspapers and magazines by carry-

ing them in second-class mail at less than cost.

If this is true, the *American Builder* is being subsidized, and, because it has the largest circulation of any monthly business magazine in the United States using second-class mail, and of its large volume of advertising, it is being subsidized more than any other monthly business magazine.

But *American Builder* wants no subsidy. It is honestly opposed to socialism and therefore is as much opposed to subsidy for itself as anybody else. And if the post-office department can prove that newspapers and magazines using second-class mail are being subsidized, *American Builder* wants its subsidy withdrawn.

But it is notorious that many kinds of subsidies contribute to the large deficit of the post-office department; an extreme example is the huge subsidy received by the aviation companies which in the fiscal year ended June 30, 1949, received \$41,237,000 for carrying only 6 per cent of the non-local, first-class mail, while the railways received only \$26,437,000 for handling the other 94 per cent. These figures are from the post office department's latest "cost ascertainment" report which says the department received an average of only \$2.36 revenue per ton-mile from air mail, while the handling

of air mail cost the department an average of \$3.35 per ton-mile—50 per cent more than the revenue received from it.

If the *American Builder* is being subsidized, it wants its subsidy withdrawn; but it wants all other subsidies from government withdrawn, whether paid by the post-office department or not.

The reason why subsidies promote socialism is that they tax the unsubsidized to pay part of the costs of those who are subsidized and undermine free enterprise by giving an unfair competitive advantage to the recipients of subsidies. There can be no fair and equal competition between a company or industry that is unsubsidized and one that is subsidized, because the subsidy of the latter enables it to make lower rates or prices than the former and thereby drive it out of business.

Competition in prices, based on total costs, is the very essence of the free enterprise system. It is what gives the incentive to effect economies in operation and improvements in service, which cause the progress under private enterprise which never has and never can occur under socialism.

There is no surer way to kill private enterprise and make socialism unavoidable than to permeate the economy with subsidies as we have been doing more and more since World War I.

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Samuel O. Dunn,

**BILT + WELL
WOOD**

Another
SUPERIOR
UNIT WOOD WINDOW
Installation

APARTMENTS
UNDER CONSTRUCTION BY
Geneva Gardens Apartments, Inc.
N. Cobble & Sons, General Contractors
Whitmer-Jackson Co.,
SUPPLIES BILT-WELL WINDOWS
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Raymond W. Jewell
ARCHITECT, CHICAGO, ILL.
VETERANS' PREFERENCE
RENT 175-180 per month

Superior Unit Wood Windows are being installed in thousands of individually built small homes, in addition to many projects like the Geneva Gardens Apartments.

One of the many reasons being . . . Superior's patented flexible jamb-liner weatherstrip which insures smooth, free, easy-sliding windows.

Superior Windows are made of Ponderosa Pine, kiln-dried and scientifically-treated to give long satisfactory service. The fact that wood is a natural insulator insures low maintenance cost and greater

durability. Not only do Superior Windows provide all these advantages plus greater comfort and convenience but also saves money by speeding up completion of jobs through quick, easy installation.

Superior Unit Wood Windows are distributed by leading Woodwork Jobbers throughout the 37 Eastern States.

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Superior Unit Wood Windows • Exterior & Interior Doors • Entrances and Shutters • Closets • Casements • Carry-over Garage Doors • Basement Unit Windows • Louvers & Gable Sash • Breakfast Nooks • Combination Doors • Screens & Storm Sash • Corner (China) Cabinets • Gli-door Cabinets • Ironing Board Cabinets • Mantels & Telephone Cabinets • Multiple-Use & Linen Cabinets • Stair Parts.

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That's what you have when
you own an all-purpose

DeWALT



2. DISC SANDER



3. GRINDER



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5. DADO MACHINE



6. TENONER



7. ROUTER



8. SHAPER



9. HORIZONTAL DRILL



10. METAL CUTTER

DeWALT

Why should you invest in many single-purpose machines when one DeWalt can give you all ten of these, and more?

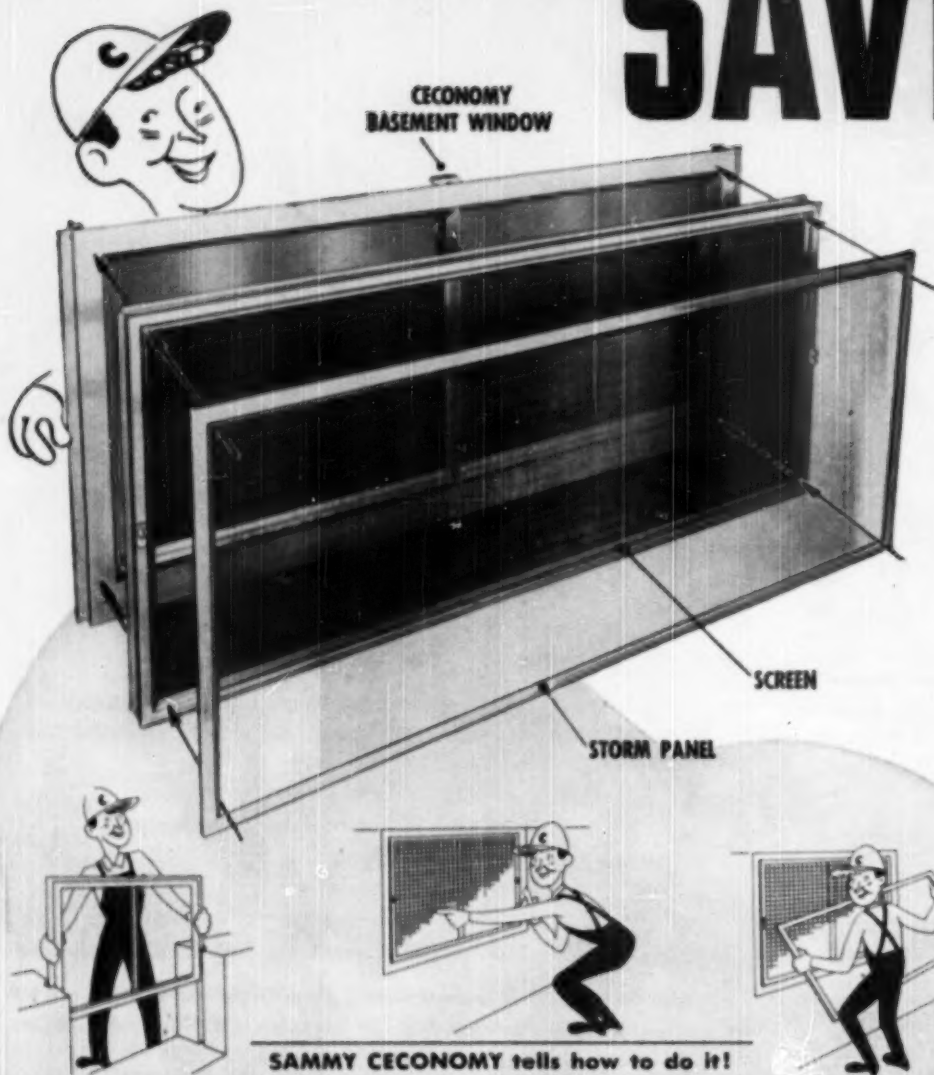
Simply by changing the cutting tool on a DeWalt you have another machine! Actually, it's a complete "shop" in itself.

DeWalt starts your house for you—cutting rafters, studs, joists, bridging, fireblocks, stair horses, etc. DeWalt finishes your

house for you—cutting interior trim, built-in cabinets, shelving, trellises, window-boxes, etc.

No matter what the operation, DeWalt is fast, accurate, safe! Before you buy any radial saw today, investigate DeWalt. Make sure you get all the precision and safety features only DeWalt offers! Write for catalog, DeWalt, Inc., 11 Fountain Avenue, Lancaster, Penna.

SAVE



SAMMY CECONOMY tells how to do it!

When you place your forms for the foundation, nail a wood strip on each side of your opening to provide vertical rebates. Strip forms, lower attached the Ceco Economy Basement Window into rebates. Plumb and level. Grout with concrete.

After the window has been erected, it is a simple matter for the home owner to affix his basement window screens with only two screws. The screen goes on the outside, does not interfere with the operation of the ventilator.

The storm panel is placed on the outside over the screen, making the screen self-storing. Two simple clips hold the storm panel rigidly in place. Interchangeable—no matching of storm panel to window, no fitting each season.

In construction products **CECO ENGINEERING**

4 WAYS...

with CECO'S CECONOMY Basement Window

You get four-way economy from start to finish with Ceco's famous Ceconomy Basement Window and the new Combination Screen and Storm Panel. Here's a case where low original cost is matched by savings in installation, performance and maintenance:



- 1 ECONOMICAL TO BUY**—Engineered quality at a price—about \$3.08 for the 2 light 15" x 12" window alone. About \$4.62 for the Combination Screen and Storm Panel. Slightly higher west of Mississippi and in South. The above prices are consumer prices.

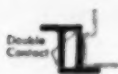


Integral Guide and Fin Riveted to Window

- 2 EASY TO ERECT**—The masonry guide and fin make the window easy and inexpensive to install. Guide quickly aligns masonry. Fin ties window rigidly to construction.

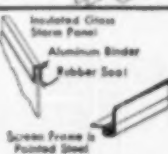
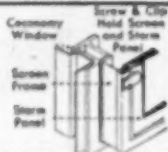


Guide Keeps Masonry From Cracking Ventilation



Tighter Window Weatherseal

- 3 SAVES FUEL**—The window closes tightly because it has double contact weathering. Then, too, the Combination Screen and Storm Panel provides added comfort, saves additional heat.



Screen Frame Is Painted Steel



Window Sections are Hot Rolled Steel

- 4 LOW MAINTENANCE**—The window is engineered in hot rolled steel, bonderized and painted. Can't rot or swell. Screen frame is painted, wired with 18 x 14 bronze mesh. Storm panel is insulated with rubber seal and aluminum edging.

See Ceco catalogs in Sweet's Builders and Architectural Files... or write for free literature.

CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses, plants and dealers coast to coast

AVAILABLE IN THREE STANDARD SIZES



The above sizes are window dimensions

**CECO
STEEL**

makes the big difference

Partial List of Ceco Products

METAL RESIDENCE CASEMENTS • INDUSTRIAL WINDOWS AND DOORS • METAL FRAME SCREENS • ALUMINUM FRAME STORM WINDOWS • ALUMINUM COMBINATION STORM WINDOW AND SCREEN UNITS • METAL LATH AND ACCESSORIES • STEELFORMS • REINFORCING BARS • STEEL JOISTS AND ROOF DECK • HIGHWAY PRODUCTS • ROOF AND ATTIC VENTILATORS



Nu-CALK SPEED LOAD AND SPEED LOADER

The famous SPEED LOAD and its handy partner, the SPEED LOADER calking gun gives you the most efficient sales team on the market. It's popular! It's practical! It sells! Packed 10 loads to carton — 4 cartons to case.



This handy CG-4 Speed Loader is priced so low it will pave the way to more calking sales.

Nu-CALK CALKING COMPOUND

Nothing can compare with Nu-CALK! It's the "standard of calking compound quality." Available in 1/2 pint, pint, quart, gallon, 5-gallon cans. Also 55 gallon drums. You can recommend Nu-Calk fully confident it will never let you down. A best seller for many years.



Nu-Glaze GLAZING COMPOUND



When you sell Nu-Glaze instead of putty you make satisfied customers because Nu-Glaze really stays put! What's more you make *bigger* profit! Sells because it does the job better. Nationally advertised, nationally known and nationally used. Stock up on Nu-Glaze today!



NATIONALLY ADVERTISED

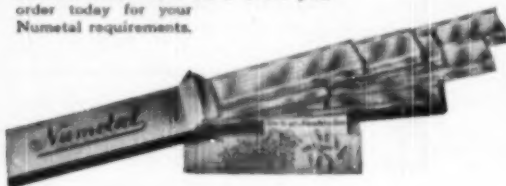
Every month millions of people are being told they can buy these famous products from you! There's no reason for you to miss any of these sales. Order a good stock of each of these fast-selling weather-proof items and keep well supplied all season long!

\$ \$ \$ \$ \$
Mack says...



Numetal WEATHERSTRIP FOR DOORS AND WINDOWS

An old friend, and a leader in weather strip sales for nearly 30 years. Conveniently packaged in sets for windows or doors in individual cartons. A perfect over-the-counter sales item. Place your order today for your Numetal requirements.



BRASS & FELT DOOR BOTTOM WEATHERSTRIP

Numetal Door Bottoms are the largest selling weather-proof item because they're absolutely tops in the field. Wool felt— heavy gauge brass. More sales — more profits — better satisfied customers—you should have a stock now. Order today.

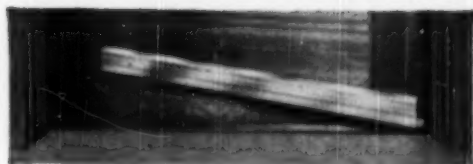


Order Today...

Be ready for the big weather-proofing sales season ahead! Your stock will be shipped same day your order is received!

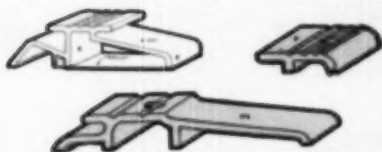
for WEATHERPROOF ITEMS that "fill the till"

...Order your supply of these famous profit makers now!



Nu-GARD AUTOMATIC DOOR BOTTOM AND DRAFT ELIMINATOR

The new, improved Nu-GARD Automatic Door Bottom is the most efficient, most practical door bottom of them all! A simple demonstration makes the sale every time. So show 'em and you'll sell 'em. Homeowners need them on practically every door in the house both inside or outside.



Nu-ART THRESHOLDS

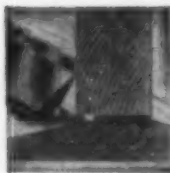
These attractive thresholds can play a big part in your weatherproofing sales. While Nu-ART Thresholds are available in a wide variety of types and sizes, we picture above three popular types. Furnished in either brass or aluminum, with holes drilled, screws furnished — each threshold individually wrapped and labeled.

Nu-WAY WEATHER STRIP

The easiest strip to sell because it's the easiest strip to put on. Any clerk can sell it. Any customer can install it. Can be used on most any type window, storm sash or door. Nu-WAY Weather Strip is really a fast seller — so keep well supplied! Order today!



**KEEPS
COLD
OUT...
HEAT IN**



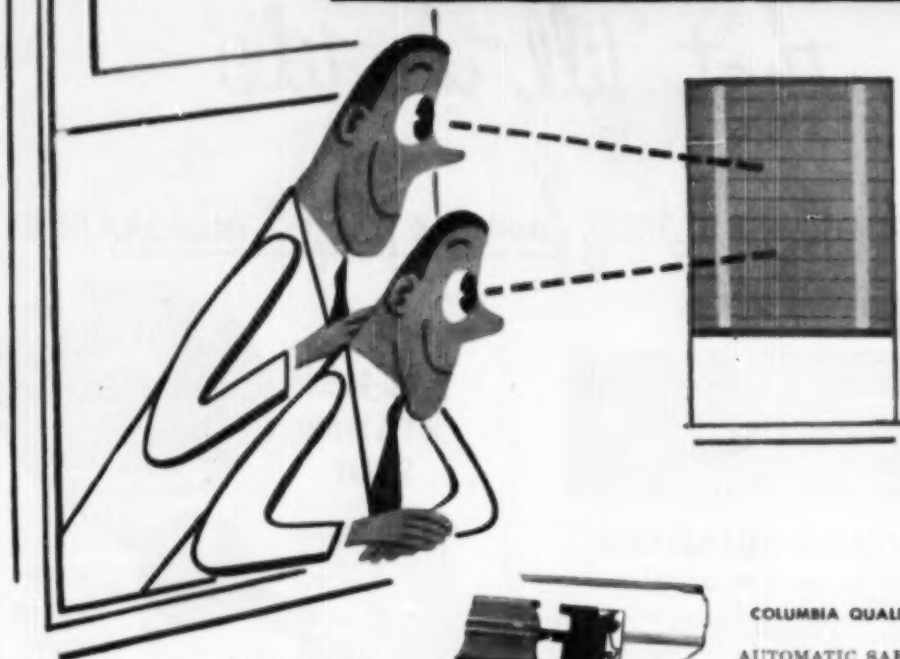
DRIP CAPS FOR DOORS AND CASEMENT WINDOWS

These drip caps in both styles illustrated are very effective in keeping rain from dripping or running under doors and wood casement windows. Furnished in either brass or aluminum in any lengths desired. You need these practical items to have a really complete weatherproof stock!

MACKLANBURG-DUNCAN CO.
OKLAHOMA CITY 1, OKLAHOMA



Gentlemen prefer blinds...



not just any blinds—**Columbia Venetian Blinds!** Men are notoriously impatient with jerky, slipshod Venetians. At home and in their office, they want blinds that work with honey-smooth precision so characteristic of Columbia.

If you're responsible for the Venetian Blind installation in any building—large or small—Columbia is a name that probably rings a familiar note to you. Columbia represents first quality to decorators—institutional users—builders.

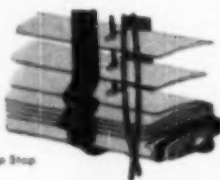
Regardless of the complications involved, your Columbia Authorized Dealer can solve your Venetian Blind problems expertly. He's familiar with all sizes and types of installations. Naturally, the bigger the job, the better the price, per blind. Get in touch with him right away.

Columbia
VENETIAN BLINDS
AND WINDOW SHADES

THE COLUMBIA MILLS, INC. • 428 SOUTH WARREN STREET, SYRACUSE 2, N. Y.



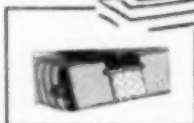
1. Safety Stop



2. Snap Stop



3. Clip Grip



COLUMBIA QUALITY POINTS

AUTOMATIC SAFETY STOP holds blind where you want it—no slipping. (See figure 1.)

Columbia's exclusive **SNAP-STOP** keeps blinds from rattling and banging when window is open. (See figure 2.)

Choice of enamel-coated aluminum or steel slats, galvanized to prevent rust. Easy to clean.

All-metal headbox completely encloses satin-smooth working parts.

CLIP-GRIP at top and bottom of blind makes tape removal quick and easy. (See figure 3.)

ROLLER-LIFT, special Columbia mechanical feature for extra large blinds, means easy operation. A child can raise and lower the biggest blind.

We will gladly submit specifications for Venetian Blinds that can become a part of the General Contractor's bid. This includes a recommendation for correct type of slats and tape; mechanism; method of manufacture and proper installation. Let us call on you and discuss your particular problems.

Columbia Venetian Blinds and Window Shades are sold only in leading department and furniture stores and shade shops designated as Columbia Authorized Dealers.

COOS BAY LUMBER COMPANY . . . COQUILLE, OREGON



From the Plywood Empire

The Coos Bay Lumber Company, Coquille, Oregon, is a leading producer of plywood and other wood products. The company's facilities are located in a beautiful coastal area, and it has a long history of service to the building industry. The company's products are known for their quality and durability, and they are used in a wide variety of applications. The company's commitment to excellence is reflected in its products and its service to its customers.

BOSTON, MASS.
100 Massachusetts Ave.
ALBANY, NEW YORK
Part of Albany
HOBOKEN, NEW JERSEY
77 River Street
PHILADELPHIA, PA.
4701 N. Broad

COLUMBUS, OHIO
804 Atlas Bldg.
CHICAGO, ILL.
205 West Wacker
LOS ANGELES, CALIF.
812 S. 1st St.

SAN FRANCISCO, CALIF.
214 First Street
SAN DIEGO, CALIF.
8205 Pacific Highway
OAKLAND, CALIF.
9029 San Leandro St.

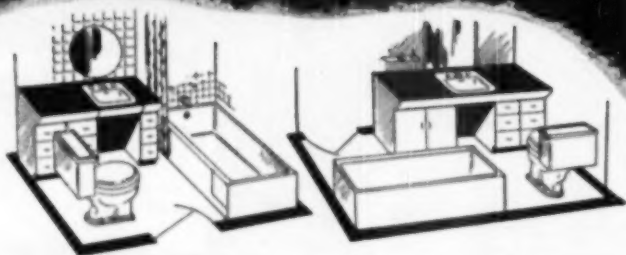
Plus various other offices and representatives
throughout the United States.

CRANE

the preferred plumbing



For apartments . . . for homes . . . the Crane Westland counter-top lavatory. In white or attractive pastel colors. Install in counter top of any material . . . tile, linoleum, glass, or composition. Consult your Crane Branch or Crane Wholesaler.



CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5
PLUMBING AND HEATING
VALVES • FITTINGS • PIPE



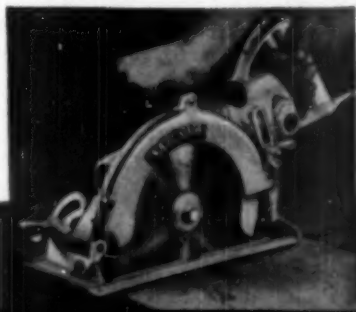
**"Up here I'll take a
SKIL Saw"**

"It's safer because it's easier to handle!"

On every building job, extra safety is something you always want. And safety is one reason so many builders say, "I'll take SKIL Saw." SKIL Saw power prevents jamming or stalling that could throw you off balance; SKIL Saw has perfect balance for constant easy use; SKIL Saw provides two handles for sure control where two hands are needed.

Every SKIL Saw combines better balance, design and power. Together they give you the easy handling that pays off in added speed, added safety and better work. Ask your SKIL Tool Distributor for a demonstration today.

SKIL Tools are made only by
SKILSAW, INC.
9033 Elston Ave., Chicago 30, Ill.
Factory Branches in Principal Cities
In Canada: SKILTOOLS, LTD.,
46 Portland St., Toronto, Ont.



SKILTools
MADE IN U.S.A.



Choose Your Cement
like a painter selects his paint
...TO FIT THE JOB



Every painter knows that paints must be carefully selected to fit the job, and the same is true with cements. Today wise contractors carefully choose the exact type of cement that is especially made for the concrete work at hand. Medusa manufactures seven Job-Fitted Cements, all of which have special ingredients that make them *far superior to ordinary cements for certain types of work!* For instance, for the best possible stucco construction, contractors should always use these two Medusa Job-Fitted Cements, Medusa Waterproofed Gray Portland Cement* in the mortar coat and Medusa Waterproofed White Portland Cement* for the finish coat.

HOW THESE SPECIAL CEMENTS MAKE BETTER STUCCO

These Medusa Waterproofed Cements* have a waterproofing material ground in during manufacture. This material repels water at the surface guarding against damaging moisture penetration and efflorescence. The Waterproofed White Finish Coat prevents rain-carrying dirt from entering and staining the surface. That's why Medusa stucco is *lastingly beautiful*. If you want superb beauty in stucco homes, use the cements made especially for finer stucco. Send coupon for the booklet, "A Guide to Finer Stucco."

*If Medusa Waterproofed Cements are not available, use either Medusa Waterproofing Paste or Powder.

"FIFTY-SEVEN YEARS OF CONCRETE PROGRESS"

MEDUSA PORTLAND CEMENT CO.
1002-6 MIDLAND BUILDING • CLEVELAND 13, OHIO

Gentlemen:

Please send me your free booklet, "A Guide to Finer Stucco."

Name _____

Address _____

City _____

State _____

**ARCHITECTS AGREED THAT KWIKSET LOCKS WERE BEAUTIFUL...
BUILDERS DISCOVERED KWIKSET LOCKS WERE EASY TO INSTALL...
WHOLESALE, JOBBERS, DEALERS APPROVED KWIKSET LOCKS' LOW COST...
AND WE PROVED THAT KWIKSET LOCKS COULD TAKE IT...**

*We couldn't wait 100 years
for a testimonial*

**SO...WE BUILT OUR OWN PROVING GROUND
AND NOW PRODUCE THE EQUIVALENT OF
100 YEARS WEAR IN 100 DAYS!**

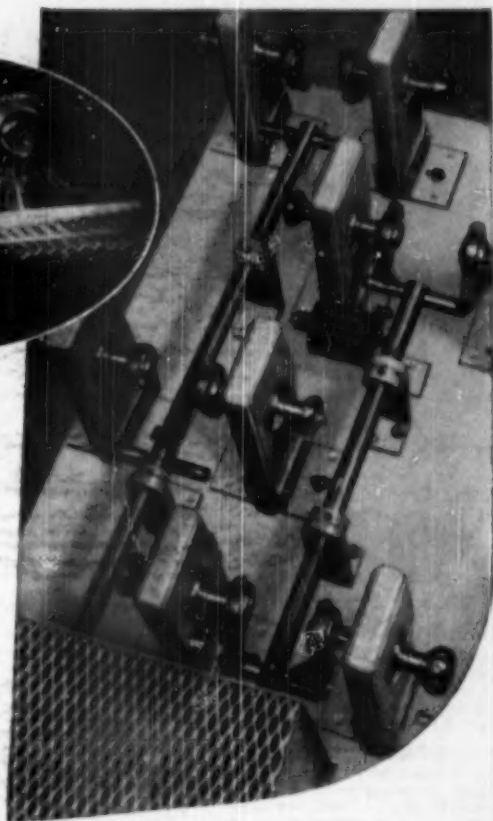
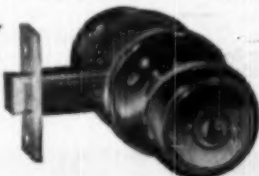


For 100 days and nights, random selected, Kwikset locks were wrenched and slammed back and forth... turned and twisted for the equivalent of 100 years of everyday use. And, these Kwikset locks stood up under every gruelling test... positive proof of their ability to provide years of trouble-free service. These routine factory tests are part of a continuous research program designed to prove the efficiency and performance of Kwikset locks.

You can buy Kwikset locks with complete confidence that you are getting an outstanding residential lock value. Kwikset locks lead on every count: quality, beauty, durability and economy. Builders are quick to recognize the appreciable savings made possible by Kwikset's low cost and simple 2-hole installation. Kwikset locks are a credit to any home—and to the many builders who put them there.

There is a Kwikset lock for every door in every house.

Available for standard residential installation in all popular U. S. finishes. Deadlatch is optional. Write for our file size catalog.



MANUFACTURED BY



DISTRIBUTORS

Petko
INDUSTRIES, INC.
1107 East Eighth Street
Los Angeles 21, California



"Job-Rated"... yet priced with the lowest

...and look what you get for what you pay...

1. "PILOT-HOUSE" CABS:



Fear quarter windows and the big 890 sq. in. windshield give safe all-round vision. Vent wings... plus the deep-cushioned comfort of 5 1/4-inch Air-O-Ride adjustable seats.

2. AN ECONOMICAL TRUCK ENGINE:

An engine designed and "Job-Rated" to develop power for 1 1/2-ton truck loads... NOT the same engine used in lighter trucks. A Dodge truck engine is "Job-Rated."

3. NEW SYNCHRO-SHIFT TRANSMISSIONS:

New Dodge "H" models (1 1/2-ton) are equipped with "Job-Rated" 4-speed silent helical gear transmissions. New 5-speed Synchro-shift transmissions available.

4. SHORT TURNING DIAMETERS:

DODGE "Job-Rated" TRUCK	
RIGHT TURN OR LEFT	11'
AVERAGE TRUCK RIGHT TURN	13'
AVERAGE TRUCK LEFT TURN	13'

Wide tread front axles, cross-type steering and short wheelbases provide shorter turning diameters for easy handling and parking.

5. BIGGER LOAD SPACE:

Dodge trucks, engineered for balanced weight distribution, provide for maximum body length in relation to wheelbase. For example: 152" wheelbase model is "Job-Rated" for 10-foot to 13-foot bodies.

PLUS

many more quality features that you'll want in your next new truck!

The truck illustrated... a Model "H" 1 1/2-ton... fits its job. It's "Job-Rated." It has "Job-Rated" power... a "Job-Rated" frame, transmission, clutch, axle, springs, brakes and tires.

The cost of operating this truck will be low. Upkeep cost will be low. This truck will last longer.

Does such a truck cost more? Emphatically "NO." Dodge "Job-Rated" trucks, 1/2-ton to 4-ton, are priced with the lowest in each weight class.

Ask your Dodge dealer to recommend the right "Job-Rated" truck for your job.

* * *

Dodge Model H-152 (illustrated) is one of 92 "Job-Rated" 1 1/2-ton basic chassis models, ranging from 7,000 to 16,250 lbs. G.V.W. Seven wheelbases, conventional and C.O.E. Single-speed or two-speed axles.

For low-cost transportation... switch to

DODGE "Job-Rated" TRUCKS

More than 350 different G.V.W. chassis models... 1/2-ton to 4-ton



BUILDING IS BOOMING!
Here's a Place for YOU to
Cash in!

STEADY YEAR 'ROUND WORK— SAND NEW AND OLD FLOORS

Investigate the money-making possibilities of starting a floor sanding business—if you want steady and pleasant indoor work—a good substantial income with earnings of \$25 and more a day—an opportunity to operate as a sub-contractor in new construction and as a separate business man when you sand older homes.

No experience or special schooling needed—sanders are easy to operate—you can start sanding floors and *make money* the first day your machines arrive. Prospects everywhere—new and old homes. No large investment—the cost of floor sanding equipment is usually smaller than the cost of a new car. The overhead is low and you need no elaborate offices, workshop, storeroom or trucking equipment. Many men operate from their own

home and use a regular passenger car to transport their equipment from job to job.

Thousands of men have been successful in the floor surfacing business. Many operate as a one-man business and hundreds who started out singly have expanded to large organizations. Age makes no difference. Men are actively engaged in this business from 18 to 80 years old. In floor surfacing you let the machine do the work. It's pleasant inside work and usually the buildings have some heat. No ladders or scaffolding to climb. A business that can bring you a lot of satisfaction and *steady money!* It's worth looking into! Send for "money-making" booklet entitled "Opportunities in Floor Surfacing"—use coupon and enclose 25c in coin or stamps to cover handling.



A Big Operator

Ben W. Kenney, veteran floorman of Kansas City, Mo., started years ago in floor sanding and has steadily expanded this business. Today, Ben and Everett C. Kenney operate the Acme Floor Co. with a total of 19 American Floor Sanders, Spinner Edgers and Polishers ... 3 trucks and a trailer.

A One-Man Business

Ed Clania lives in a Michigan city of 20,000 population. He has an American floor sander and an American Spinner for the edges, corners and stairs and also an American Maintenance Machine for disc sanding, steel wooling and polishing. He averages 75 to 100 floor jobs per year in residences, some schools and public buildings.



AMERICAN FLOOR MACHINES

Send Coupon Today!

The American Floor Surfacing Machine Co.
511 So. St. Clair St., Toledo, Ohio

Enclosed find 25c in stamps or coin for booklet "Opportunities in Floor Surfacing", telling me how I can start my own floor sanding business.

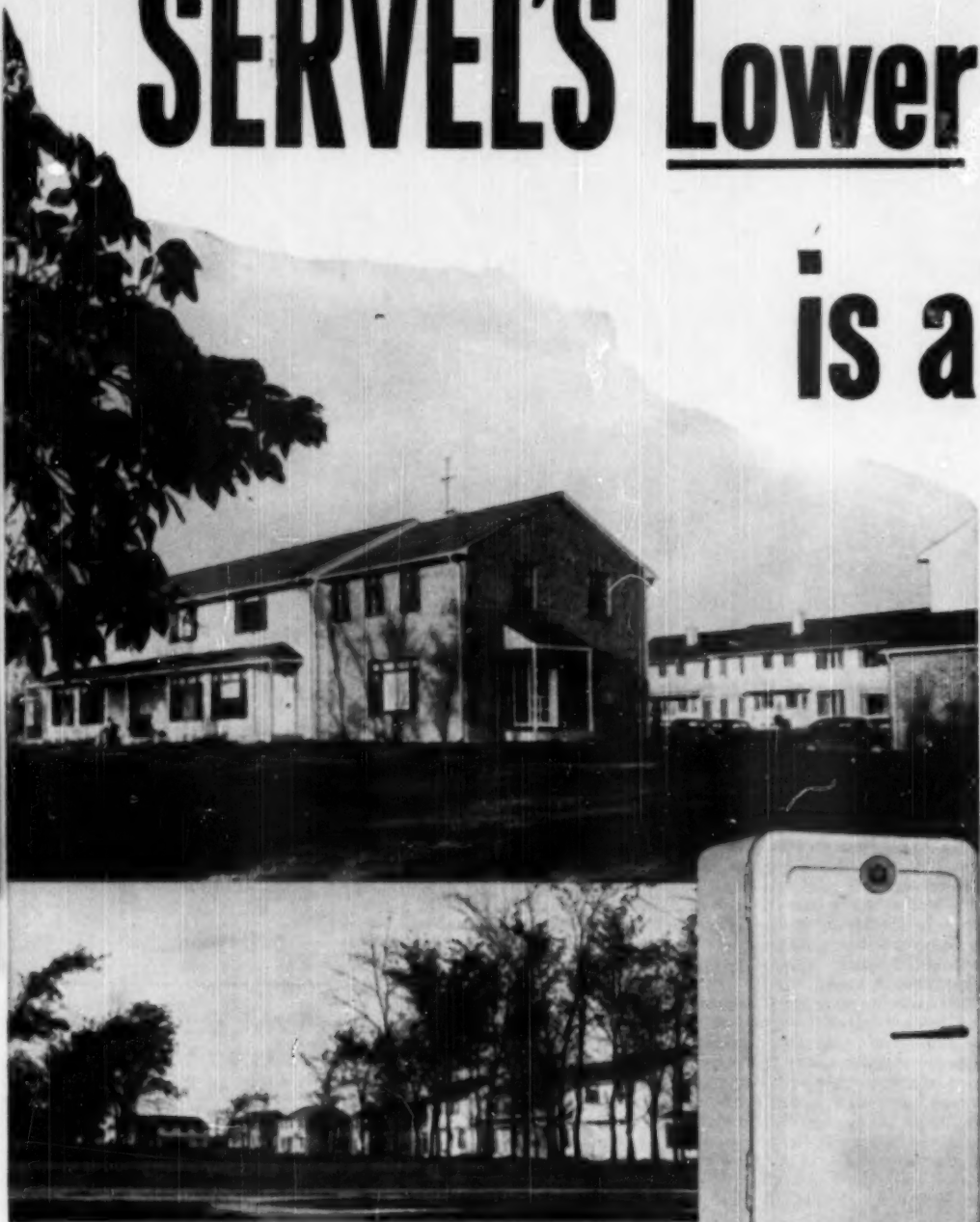
Name

Street

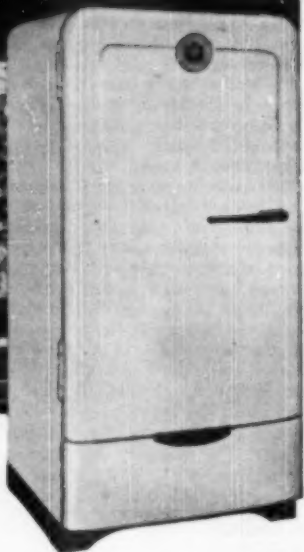
City State

Talk to us about Opportunities in Floor Sanding—Booth 153
Stevens Hotel—Chicago
NATIONAL HOME BUILDERS SHOW—FEB. 19-23

SERVEL'S Lower is a



3,010 GAS REFRIGERATORS were chosen for Park Forest
— Chicago's most modern community, now under construction
by American Community Builders, Inc., Loeb, Schlossman &
Bennett are the designers.



Maintenance Cost Matter of Record*

YOU'RE not guessing when you choose Servel Gas Refrigerators. Experience with multiple installations has shown that Servel's upkeep cost is only a small fraction of the cost required to maintain other types of refrigerators . . . thanks to Servel's *basically different principle of operation.*

By having a tiny gas flame do all the work (instead of a motor), the Servel freezing system does away with all moving parts. Thus there's no machinery to grow noisy . . . to wear and need repairs. That's why *only Servel stays silent, lasts longer . . . gives you and your tenants dependable, worry-free service year after year with no loss in efficiency.*

Consult your Sweet's catalogue for full details, or write to Servel, Inc., Evansville 20, Indiana.

Servel
The GAS Refrigerator

*Just Look At The Record

"After nine years our 398 Servels cost only 1¢ a month per unit for upkeep." MOBILE, ALA.

"In 12 years our Servels have cost us nothing for repairs." LOS ANGELES, CALIF.

"Our 750 Gas Refrigerators are 4 years old and cost less than 50¢ a year per unit to maintain." CORPUS CHRISTI, TEX.

"In the six years we have had our Servels, we've had no maintenance costs or service calls." CHICAGO, ILL.



AS ADVERTISED IN...

THE SATURDAY EVENING
POST

Yes, we're giving Saturday Evening Post readers a real selling story on new Gold Bond Insulation Board. We're telling them how random width planks, tiles and panels are double coated in ivory and harmonizing variegated blends... need no further decoration. How they are quickly applied with a minimum

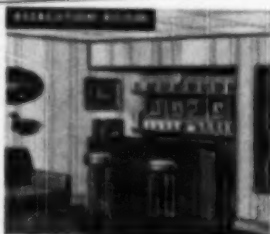
This Post ad sells good-paying remodeling jobs for you with...

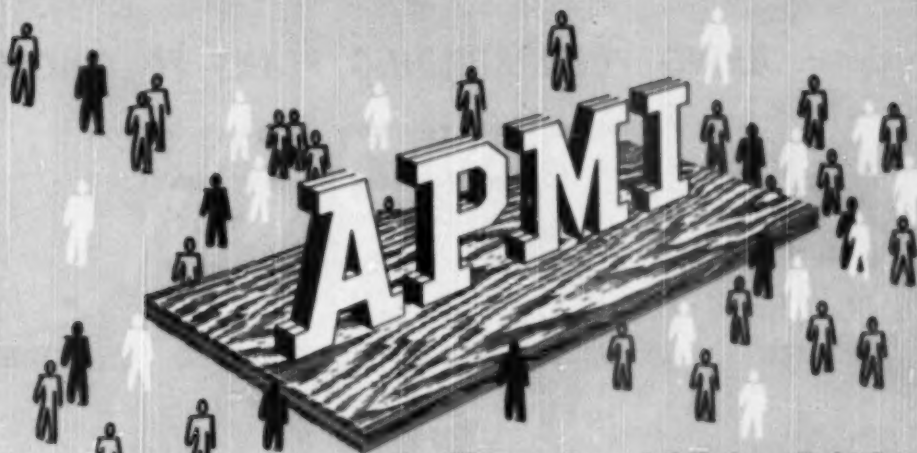
NEW GOLD BOND INSULATION BOARD

of business interruption. You can recommend Gold Bond Insulation Board to your prospects for *any* remodeling job—stores, restaurants, game rooms, attic apartments, bowling alleys or what-have-you!

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Gold Bond Insulation Board is right down your alley for all remodeling!





Nearly 1000 skilled plywood workers stand behind this trademark

A PRODUCT is judged by quality of materials, quality of manufacture, quality of the men who make, sell and service it.

Materials at Associated Plywood Mills are unexcelled—Douglas fir that grows sound and big in the moist Oregon climate... Associated plywood plants are models of efficiency in the industry... And Associated employees, nearly 1000 strong, are experts in their craft, with special skills and long experience.

The plywood they make is grademarked and trademarked—double guarantee of quality on both exterior-type and interior-type panels manufactured by this company.

APMI plywood is available at sales warehouses situated in the nation's important population and building areas. It is sold and serviced by men who know plywood uses, and who would be happy to receive your inquiries for general information, for prices, for delivery schedules.

APMI stock } Lengths: 60" 72" 84" 96" 108" 120" 144"
Panel Sizes } Widths: 24" 30" 36" 42" 48"

APMI SALES WAREHOUSES

Eugene and Willamina, Oregon
San Francisco, 925 Toland St., 24
Dallas, 4814 Bengal St., 9
St. Louis, 4268 Utah St., 16

OTHER SALES WAREHOUSES

BEINHÖYETTE & ECKSTROM
LOS ANGELES 11, CALIFORNIA
PACIFIC MUTUAL DOOR CO.
TACOMA 3, WASHINGTON
BALTIMORE 31, MARYLAND
CHICAGO 8, ILLINOIS
GARWOOD, NEW JERSEY
KANSAS CITY 3, KANSAS
ST. PAUL 4, MINNESOTA

ASSOCIATED


PLYWOOD MILLS, INC.

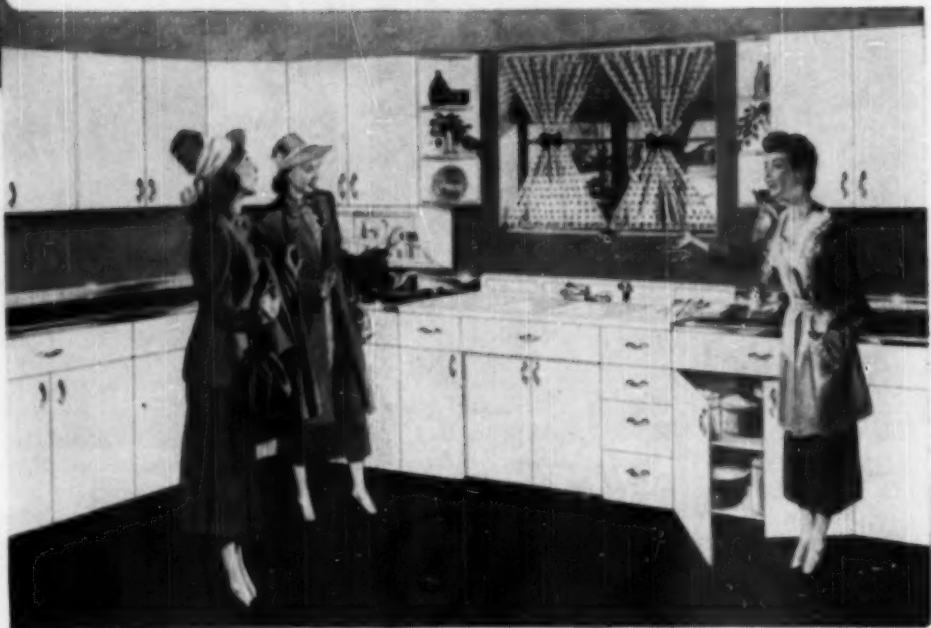
GENERAL OFFICES: Eugene, Oregon

PLYWOOD PLANTS AT EUGENE AND WILLAMINA, OREGON

BRING YOUR BUILDING PLANS TO CHICAGO

Let us show you how to get a better
kitchen for less money with

 **Youngstown ^{STEEL} Kitchens**
BY MULLINS



NO NEW HOME IS MODERN WITHOUT IT!


This is a "must" in any new home! A house is modern only if it has a Youngstown Kitchens Food Waste Disposer with the Youngstown Kitchens cabinet sink. Eliminates garbage from any home. Appeals tremendously to every woman because it does away with the garbage nuisance and menace to health. Can be installed in any kitchen. Be sure to find out about it when in Chicago.



BRING your building plans with you to Chicago. Let us see the plans of houses now building or still to be built, and we'll show you how Youngstown Steel Kitchens can: 1) Save you money. 2) Help your houses sell easier and faster!

The time to save on building costs is when you are drawing plans. That's when you can save money with Youngstown Kitchens . . . and we'd like to prove it.

Kitchen-planning experts from our Builders' Department are prepared to show you how you'll save time and labor costs—will add considerably to the sales appeal of new houses—will make larger profits—by installing the world's best-known and most wanted kitchens in your new construction. Consult our planning experts at the Builders' Show. Permanent display: Merchandise Mart, Room 1119, Chicago.

 **Youngstown ^{STEEL} Kitchens**
BY MULLINS

MULLINS MANUFACTURING CORPORATION • WARREN, OHIO

World's Largest Makers of Steel Kitchens



New Owners
Old Owners
ALL Homeowners

...want screening woven of

Firestone Velon®

Check these consumer advantages
and see why **FIRESTONE VELON**
sells itself:

- Rust and corrosion proof
- Cannot "bleed" or stain the housefront
- Never needs painting or varnishing
- Tensile strength, averaging 33,000 or more pounds per square inch
- Will not dent, bulge or break under normal impact
- Resists sun fading—cannot be damaged by salt water, industrial smoke, dirt, grease, most acids and alkalies
- Velon cuts with ease—leaves no sharp ends.

You can build a bigger screen business this Spring with rustproof, stainproof Firestone Velon plastic screening. It's easy to handle, it's light-weight, it's low priced, the perfect moneymaker for made-up screens. Velon comes in three colors—aluminum grey, forest green, bronze brown; 11 widths. For full information and samples and free promotional material, ask your supplier or write either of these distributors:

SWIFT MANUFACTURING COMPANY, Columbus, Ga.
PLASTIC WOVEN PRODUCTS, INC., 51 Camden St., Paterson, N. J.



TRADE MARK

THE NEW WALKER-TURNER ... "900"

does these jobs

Ripping
Dadoing
Mitering
Cross Cutting
Bevel Ripping
Mitre Dadoing
Compound Mitering
Bevel Cross Cutting
Shaping
Routing
Tenoning
Grooving
Ploughing

**EASIER • BETTER
AND FOR
LESS MONEY**



WALKER-TURNER RADIAL SAWS CUT DEEPER, CUT COSTS THROUGH INCREASED RIM FORCE

Increased rim force permits you to make a deeper cut with less expenditure of power because a 9" blade and 1½ h.p. motor on a Walker-Turner Radial Saw does the same amount of work that ordinary saws can do only with a 14" blade and a 3 h.p. motor.

Here's how it works. Unusual

Walker-Turner motor construction brings the spindle (shaft) close to work through new type of positive cog belt and gear drive. A smaller blade is therefore used to do the required work, thus giving you a double saving. Smaller blades are less expensive than larger ones, less power is needed to turn them.

The Sure Way to Buy Quality...

Buy Simpson

QUALITY SINCE 1895

THE QUALITY of a manufactured article depends upon many things, not the least of which is an abundant supply of high-grade RAW MATERIAL.

To assure a permanent source of raw material . . . trees . . . Simpson is cooperating with the U. S. Forest Service in a long-term SUSTAINED YIELD program which involves "scattered block logging", selection of logging areas with an eye to natural reseeding, reseeding logged-off and burned-off lands and otherwise practicing sound forest management. This program insures continuous deliveries to our customers of Insulating Board Products and Acoustical Tile from our wood fiber plant; Doors from our large door factory; Plywood from our plywood plants; Lumber from our mills.

Contact our nearest representative for complete information about Simpson lumber products.

● Douglas Fir Plywood

The QUALITY of Simpson Plywood, manufactured in the heart of the Douglas fir country, is known throughout the major distribution areas. All Simpson Douglas Fir Plywood is trademarked and grademarked for your protection.

● Douglas Fir Doors

Simpson Doors, manufactured from old-growth Douglas fir, are available in all areas in all FDI grades, all specifications and all designs including the popular Simpson Flush Door.

● Western Lumber

From our own forests and mills—all grades and sizes of old-growth Douglas fir, Western Hemlock and Redwood. Sales representatives in most areas.

● Acoustical Tile

Available through authorized acoustical contractors in all parts of the United States is Simpson Acoustical Tile, specified by architects for its higher sound absorption, washable finish, Halloware drilled perforations and finished bevels.

● Insulating Board Products

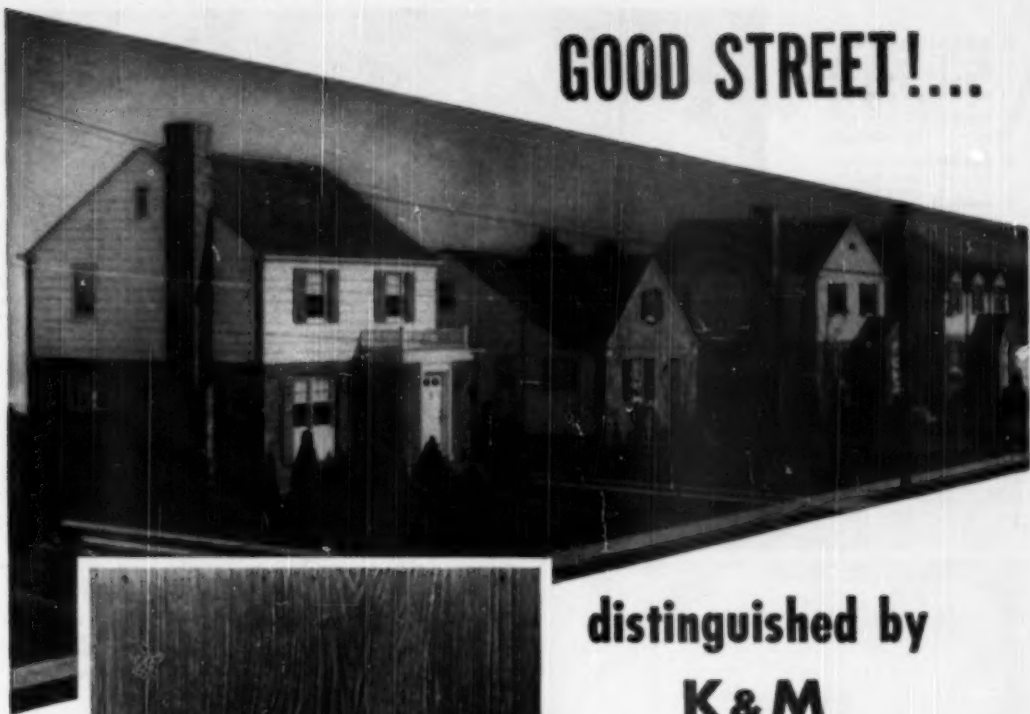
Small wood pieces, (not bark nor rotted wood) formerly used or burned as fuel, go into the manufacture of Insulating Board Products including Interior Finish Board, Plank and Tileboard, Sheathing and Lath, Roof and Cold Storage Insulation, and Nebsomaster Acoustical Tile. Distribution of these products covers the eleven western states.

SIMPSON LOGGING COMPANY

PLANTS at Shelton and McCleary, Washington, and Elsmere, California • SALES DIVISION: 1065 Stuart Bldg., Seattle, Washington
SALES OFFICES: SAN FRANCISCO, 25 Beale Street • LOS ANGELES, 1610 E. Washington • NEW YORK, 2719 Grand Central Terminal • ST. LOUIS
(Ferguson), 10 South Elizabeth St. Manufacturers of redwood lumber; distributed by Northern Redwood Lumber Co., Box Bldg., San Francisco



GOOD STREET!...



The Siding: K&M No. 57 White and Graytone

distinguished by **K&M** *"Century"* SIDING

By using K&M "Century" Asbestos-Cement Siding on all these fine homes, the builder has equipped them with two great basic sales features:

1. Every buyer gets proof of a smarter, more practical home.
2. Every buyer can see that community property values are enhanced by the entire project's fine, harmonious character.

*Original manufacturers
of Asbestos-Cement Shingles
in this country*



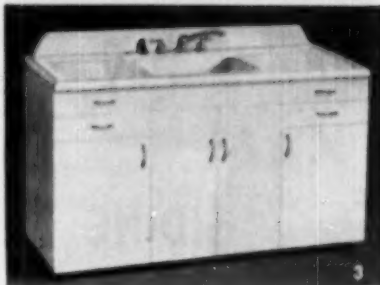
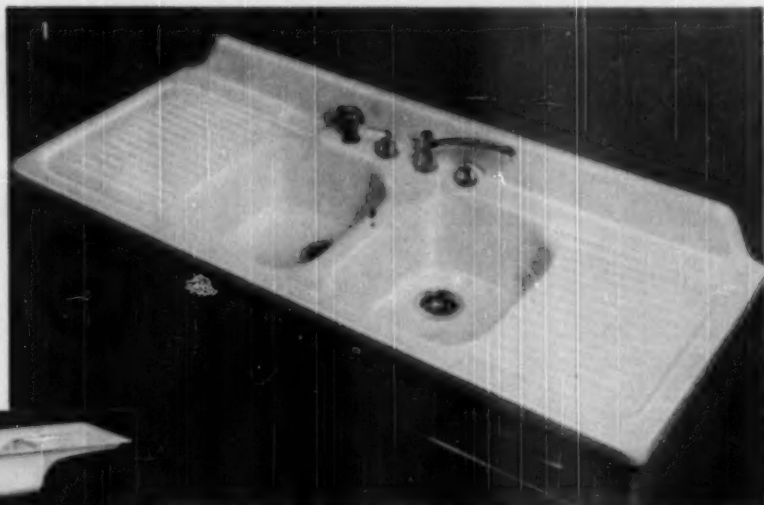
Both these values will endure. For the cypress-grained, weathered finish of K&M "Century" Siding will always look younger than its age. It will balk weather's worst moods. It won't rot, nor feed flames, rodents and termites. Not even paint is needed.

What a list of talking points, when you recommend this K&M Siding! And for you it saves labor. You can make speed and get a uniformly sleek job with the easily handled 12" x 24" units. That's how K&M "Century" Asbestos-Cement Siding helps you to quote right and deliver quality.

Get set to close that sale next time! Ask your K&M Dealer now for full information. Or get off a letter to us.

**KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA**

1. **Wildfire** K-5595-A.
60 x 25", 72 x 25". K-8605
fitting with lever-control
sprayer and two drainstrainers.
2. **Clearfield** K-5520-A.
60 x 21" for building-in.
3. **Camberley** K-5555-A.
54 x 25", 60 x 25".
4. **Winfield** K-5560-A.
54 x 21", for building-in.
5. **Cymbria** K-5576-A.
42 x 25". (With sink at left,
K-5575-A.)
6. **Chetfield** K-5580-A.
42 x 21". (With sink at left,
K-5579-A.)

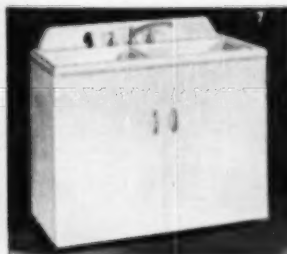


Rigid • Durable • Quiet KOHLER SINKS of enameled iron

Because they are made of enameled iron, cast for strength and rigidity, these Kohler sinks have advantages worth pointing out to your customers. The iron base is non-flexing, providing protection against cracking and crazing, and reducing the noises of everyday activities at the sink. The pure white Kohler enamel finish is acid resisting clear through, with a glass-hard, beautifully lustrous surface that cleans with outstanding ease. Remind your prospects, too, that Kohler chromium-plated brass fittings match Kohler fixtures in design, efficiency and durability. Kohler Co., Dept. 1-P, Kohler, Wisconsin. Established 1873.

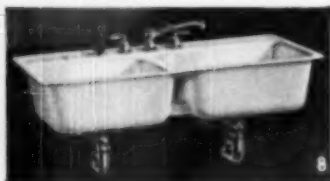
KOHLER OF KOHLER

Plumbing Fixtures • Heating Equipment • Electric Plants • Air-cooled Engines



7. **Wellwin** K-5595-A. 42 x 25".

8. **Delahfield** K-5610-A. 32 x 21", 42 x 21",
for building-in.



One call solves all your plywood needs!

Nationwide Roddiscraft Complete Service Makes Plywood and Door Buying One Simple Operation



The line to Roddiscraft saves time in buying.

One call, one order, to the nearest Roddiscraft warehouse fills all your plywood and door needs...

Douglas Fir Plywood • Fir Doors • Hardwood Plywood • Marinewood • Cupboard Door Stock • Counterfronts • Solid Core Flush Doors • House-mart Hollow Core Flush Doors and General Electric's great surfacing laminate, Textolite*. If you want a special hardwood, not carried in stock, prompt shipment can be obtained from the mill.

Trained Roddiscraft warehouse personnel give

you complete service. They will assist and advise you, if you wish.

To save time and money, to always be sure, turn your plywood and door buying into *one simple operation*. Order from Roddiscraft where every need is filled right on schedule.

Roddiscraft warehouses serve key markets from coast to coast. Check the list below for the Roddiscraft warehouse nearest you.

* Reg. U. S. Pat. Off.

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Cambridge 29, Mass. 229 Vassar St.	Los Angeles 11, Calif. 2840 E. 54th St.
Charlotte, N. C. 123 E. 27th St.	Louisville 10, Ky. 1301 S. 13th St.
Chicago 22, Ill. 3845 W. 41st St.	Marshfield, Wis. 113 S. Palmerton St.
Cincinnati 2, Ohio 457 E. Stark St.	Minneapolis 8, Minn. 4801 W. Duane St.
Dallas 10, Texas 2800 Madill St.	New York 33, N. Y. 920 E. 149th St.
Detroit 14, Mich. 11851 E. Jefferson St.	Port Newark 3, N. J. 103 Marsh St.
Houston 10, Texas 3425 Sabine St.	Philadelphia, Pa. 14th & N. Delaware Ave.
Kansas City 3, Kan. 38-52 Southwest Blvd.	St. Louis, Mo. 4453 Dunlap Ave.
L. I. City, N. Y. Review & Greenpoint Ave.	San Antonio, Texas 727 N. Cherry St.
San Francisco 24, Cal. 343 Williams Ave.	

Roddiscraft

RODDIS PLYWOOD CORPORATION
MARSHFIELD, WISCONSIN

"THE *H.C. Little* OIL WALL FURNACE... an important factor in our sale of homes"

Says H. A. BRIGGS, President
Briggs Construction Co., Tacoma, Wash.



Briggs of Tacoma has proved that homes are sold today on **QUALITY**... on such **NATIONALLY ADVERTISED FEATURES** as the **H. C. Little Oil Wall Furnace**. This furnace automatically **LIGHTS ITSELF**, burns low cost catalytic furnace oil and provides supreme comfort and convenience in small homes at low cost, so **IT SELLS ITSELF** and **IT HELPS SELL HOMES**.



Jack Briggs, V. P., H. A. Briggs, Pres., Verne Spillman, Sales Mgr., and Robert Larson, Supt. of Const., study plans of fast-selling "Briggs Built" home.



"Our buyers like the idea of the furnace "lighting itself" and the fact that the unit does not interfere with wall to wall carpeting or placement of furniture."



"We have also found them remarkably free from mechanical trouble and extremely economical. Also they give excellent distribution of the heat."

Below is the full text of a letter dated 11/22/49
from H. A. Briggs to H. C. Little Burner Co.

"When we started construction of houses at our Fairmont Park and Parkland projects, we decided to use your #60 automatic wall furnace, instead of the conventional floor furnace.

We have now installed 130 of these units and have found them extremely satisfactory from all angles.

Customer reaction has been very favorable to the H. C. Little Wall Furnace and we know that this has been an important factor in our sale of houses.

We have also found them remarkably free from mechanical trouble and extremely economical. Also, they give excellent distribution of the heat.

Our buyers like the idea of the furnace "lighting itself" and the fact that the unit does not interfere with wall to wall carpeting or placement of furniture.

All in all the H. C. Little Wall Furnace has been ideal for our homes and we are glad to have such a heating device available."

Investigate the **HOME SELLING** qualities of the H. C. Little
oil burning Wall Furnace and many other H. C. Little units.

Write Dept. A-1



San Rafael, California

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Des Moines, Iowa

Detroit Lakes, Minn.
Fayetteville, N.C.
Kansas City, Mo.
Newark, N.J.
Portland, Oregon

Prescott, Ariz.
Reno, Nevada
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.



Something New in Oak Floors

A pegged oak floor that's moderately priced and easily installed

This new floor has been developed by Bruce to bring the charm and individuality of pegged oak floors to homes in all price ranges . . . even those under \$10,000.

With alternate 2 1/4" and 3 1/4" widths, beveled edges, and walnut pegs, the Ranch Plank Floor looks very much like an expensive, custom-built random-width plank floor. It has informal beauty and enduring style.

Yet this floor is moderate in cost and has none of the installation complications of a wide plank floor; it is installed by blind nailing . . . just like regular strip flooring. It is pegged and completely finished and waxed at the factory.

Architects and interior designers praise Bruce Ranch Plank Floor for modern and traditional interiors, and say the new "Decorator" Finish is perfect for all color schemes. Owners vote it one of the most admired features of their homes.

See our catalog in Sweet's 1950 File. For new booklet in color, write E. L. BRUCE CO., MEMPHIS 1, TENNESSEE.



It's pegged and finished at the factory

BRUCE
Ranch Plank
FLOOR

LET'S FACE IT!

This fast moving age of new products demands that
you **FACE** it with

St. Paul & Tacoma's "ARMORED" BOARDS

PLYGLAZE

This composite product is Plyglaze has a similar sturdy hand
reflecting abrasive resistance, and has a natural transparent
shiny surface resembling the attractive wood grain of ply-
wood.

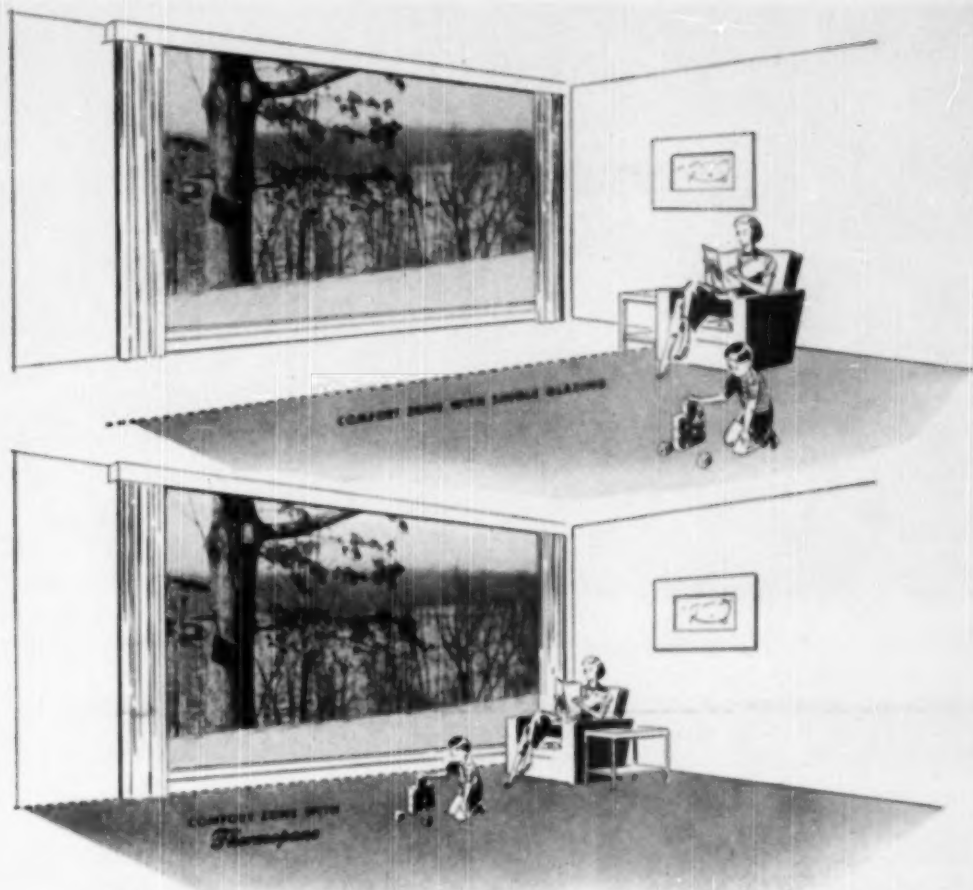
Plyglaze is the ideal material to use where the absolute
in wearing surface is required. Plyglaze need not be painted
unless a different color is desired. Its smooth and flat-hard
surface provides even similar to that of Plyglaze.

- **Excellent finish:**
Plyglaze has very smooth in-
terior. It is easy to clean and
standard plywood boards are
available in a variety of colors
and grades.
- **Plyglaze panels:**
Laminate Plyglaze panels, clear
boards.

REMEMBER!
IT'S THE SURFACE THAT COUNTS!

MANUFACTURED BY

ST. PAUL & TACOMA LUMBER COMPANY - Plywood Division, Tacoma, Washington



1/2 inch ADDS *feet* TO A ROOM

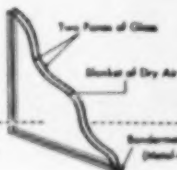
Where building budgets restrict floor space, *Thermopane** insulating glass in the windows becomes doubly important. All of the room is usable because the inner pane stays warmer in winter and downdrafts are minimized.

Areas next to windows stay comfortable and furniture can be placed for maximum convenience. An unused "low-comfort zone" is expensive to build. A window wall of *Thermopane*

to give the feeling of spaciousness and to allow full use of the room is the economical solution.

The 1/2-inch insulating blanket of dehydrated air sealed between the panes of *Thermopane* does the trick. Builders now are erecting *Thermopane* window walls at little or no advance in cost over conventional wall construction. For design flexibility and building economy, *Thermopane* is made in over 90 standard sizes. For details, write for our *Thermopane* book.

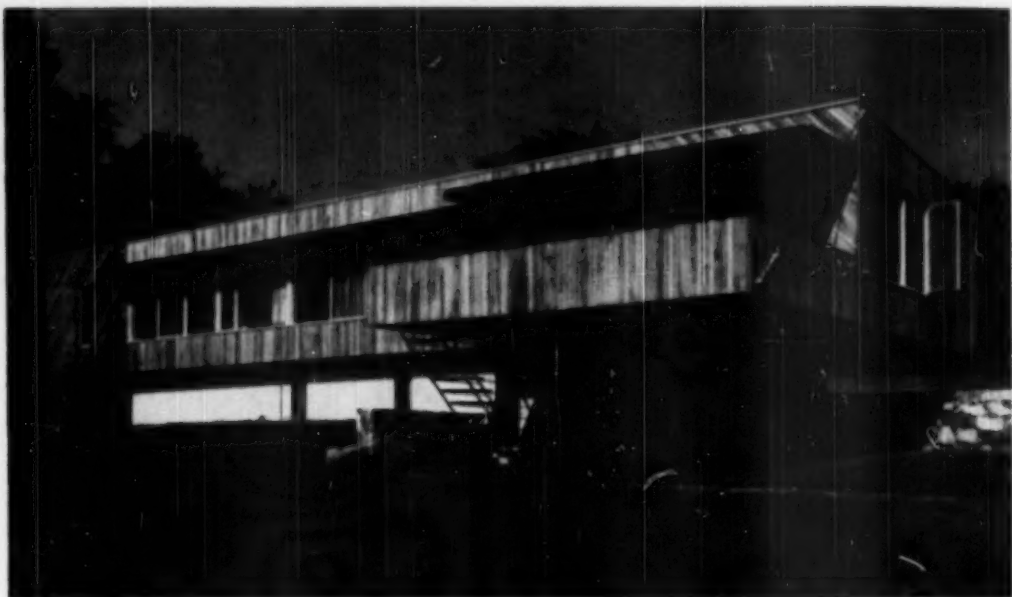
FOR BETTER VISION SPECIFY **THERMOPANE**
MADE WITH POLISHED PLATE GLASS



Thermopane

MADE ONLY BY LIBBEY-OWENS-FORD GLASS COMPANY

3515 Nicholas Building, Toledo 3, Ohio



MARCEL BREUER, Architect

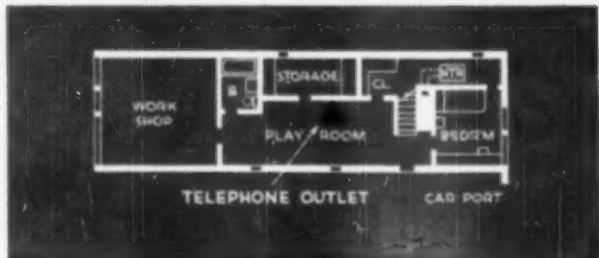
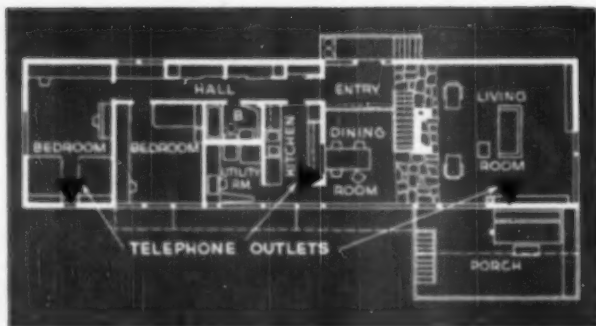
HOMES WITH A FUTURE HAVE TELEPHONE RACEWAYS

Modern home planning considers the future as well as the present needs of the owner. Telephone raceways conceal telephone wires *within* walls. They also provide for the relocation or addition of telephones later on.

It's easy and inexpensive to provide for telephone facilities during construction. A few lengths of pipe or tubing placed in the walls will carry telephone wires to outlets located at key points throughout the house.

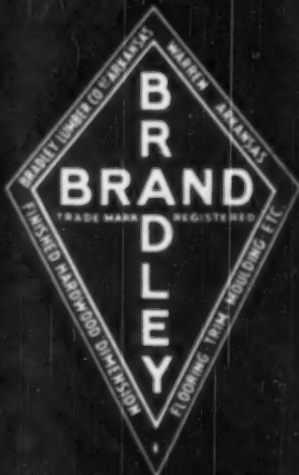
Your Bell Telephone Company will be glad to co-operate in planning telephone raceway systems. Just call your nearest telephone company Business Office and ask for "Architects and Builders Service."

BELL TELEPHONE SYSTEM



*"...we shall continue using it
at every opportunity."*

PRE-FINISHED
STRAIGHT-LINE



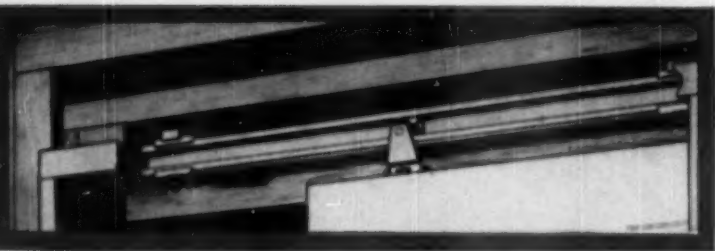
STANDARD of COMPARISON
in
PRE-FINISHED HARDWOOD
FLOORING

"Our first experience with Bradley Prefinished flooring was in 1942. That we made a wise decision in selecting it was proved repeatedly as our work progressed. No time was required for sorting, its tongue-and-groove fitting accelerated laying. Pre-finished at your factories, it required no machine sanding and finishing after it was laid. Its durable, uniform and lustrous finish, subjected to the constant handling and work of the mechanics in laying, was restored simply by cleaning.

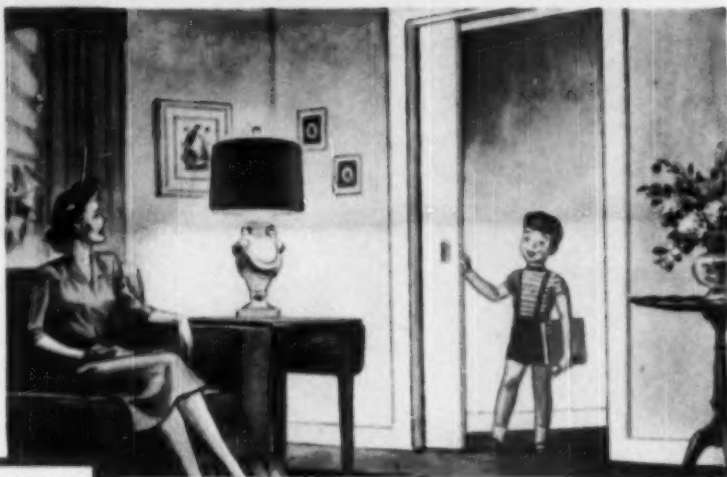
"Since then we have used Bradley Pre-finished Oak Flooring for about 95 jobs, with the same satisfactory experience. Needless to say, we shall continue using it at every opportunity."

What's behind this contractor's good opinion of Bradley Pre-finished is covered in our Data and Specifications. Write now for your copies.

IT'S EASY
ALL THE WAY



...when homes
are planned
and built
with



STANLEY

Reg. U.S. Pat. Off.

Residential

SLIDING DOOR HARDWARE



Sliding Doors Pay Extra Dividends in smart appearance, easy, effortless operation, and more freedom for furnishings. Leading architects, builders and suppliers are emphasizing these advantages in the trend to lightweight interior doors where compactness and convenience are important.

Wide Range of Applications (*several shown here*) is matched by modern Stanley design . . . V-shaped track for minimum friction . . . quick and easy adjustment with a screw driver without removing trim. Complete plans are packed with each set. The Stanley Works, New Britain, Connecticut.

➔ Send for this special folder that illustrates and describes complete line, with door plans, header construction and installation details.



STANLEY

Reg. U.S. Pat. Off.

HARDWARE • HAND TOOLS • ELECTRIC TOOLS • STEEL STRAPPING

TRENDS in the Building Field

Half A Century of Building Progress

IN 1900 *American Builder* reported "Gingerbread decoration is fortunately dying out—the parlor is doomed—houses are now getting down to two stories, with servant quarters in a partial third story—ventilation of the upper stories, which are devoted to bed chambers, is receiving practical attention."

The same cost and shortage problem bedeviled builders of 50 years ago. A New York builder of "towering" office buildings stated "I figure the general increase in the cost of an average building today is about 40 per cent. A building that would have gone up last year for \$200,000 would cost today \$280,000. I was talking to the president of a large iron concern today and he tells me that the price of iron is just double what it was a year ago. These figures ought to explain the situation, but there are other things to be considered. A year ago I could go to the mills and order 1,000 tons of beams, and they would deliver them to me wherever I wanted them. Today they won't guarantee delivery . . . Rents have decreased for the last five years, and they are today fully 30 per cent lower than they were . . . Investors will have to be satisfied with a lower rate of interest."

On the labor front, a strike in the building trades in Chicago had been on for two months. The building industry was practically stagnant. Construction News was quoted in *American Builder* as saying about the strike:

"There was never a time when the issues were more plainly drawn, and when the employers were so entirely in the right. . . . To hold that the employer must put a certain number of men to work whether their services are required or not, to contend that work which can be done in half a day shall constitute a day's labor, to fight for a Saturday half holiday at full pay, with an absolute refusal to permit more emergency work to be done in that time, to stand out against the use of labor-saving machinery—all these things are involved in the present struggle, which assumes the very right of employers to hire men to be unfounded." In another article it

was pointed out that "several of the large industrial corporations are said to be arranging to dispose of part of their stock to their employees instead of putting it in the public market" as a possible solution of labor troubles.

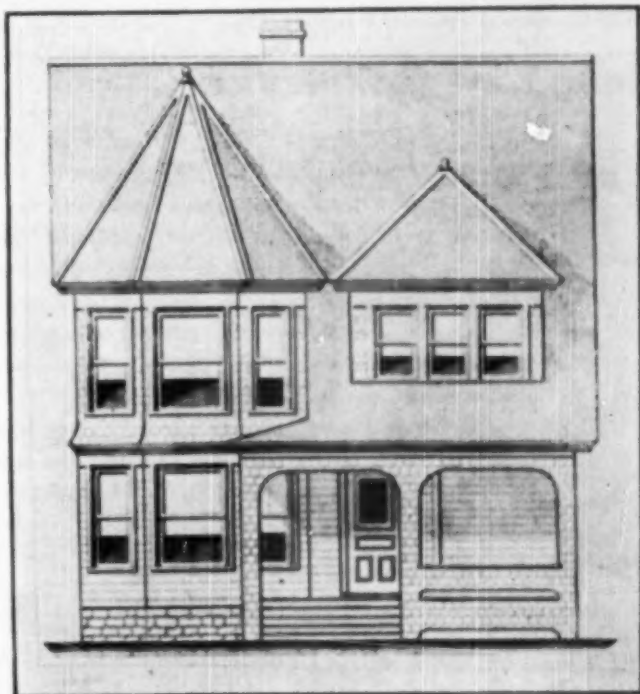
Advertisers offered artistic mantels at \$12.00 and upwards, parquet floors, hand and foot power wood-working machinery, stamped metal ceilings, stable fittings and elevators at \$75 and up. Mineral wool for lining buildings, said to check the spread of fire and to keep out dampness, was also advertised.

In this January, 1950 issue of *American Builder* advertisers are offering plywood, metal windows, automatic heating systems, rubber and asphalt tile, motor trucks, asphalt and asbestos building materials, insulation materials, modern plumbing fix-

tures, power tools, gas and electric appliances, all unobtainable or not in common use 50 years ago.

To the new home buyer of 1950, the new house of 1900 would be merely a shell. In most cases it had no plumbing or electricity; it certainly did not have automatic heating or insulation. It did not have kitchen cabinets installed. It might have had a gas range but not a mechanical refrigerator. The chances are that it was on an unpaved street.

It is probable that the last twenty years of this half century have brought more improvements to new homes than the first thirty years, indicating an acceleration in the rate of acceptable innovations. It is anybody's guess what the next fifty years will bring. If the change is as great as the first fifty years some startling new things will be coming up.



A MODERATE-priced home of 1900—from the pages of *American Builder* 50 years ago



TRUSCON
Residential
**INTERIOR
DOORS**

sharp modern beauty...



The lasting beauty of Truscon Residential Doors will grace any home.



Truscon Sliding Closet Doors provide greater availability of storage and room space.

long timeless service...

New progress in steel

...new opportunities for extra quality at lower cost!

Truscon Residential Steel Interior Doors and Frames are attractive in design. Handsomely modern in appearance. Precision engineered and manufactured, these doors assure smooth, quiet and trouble-free operation. Outstanding economy of labor and material for installation is a major feature. Steel construction protects against warping, shrinking or sagging during the life of the structure. Efficiency of space and operating convenience are special advantages of the sliding closet doors. Truscon Residential Interior Doors are steel...are strong...are sensible.

Write for the new Residential door catalogue giving complete range of sizes and full details.



Talk to Truscon at
NATIONAL HOME BUILDERS SHOW
Stalls 67 and 68
Chicago—Feb. 19 through 23

TRUSCON'S STEEL WINDOW LINE INCLUDES ALL CONVENTIONAL TYPES PLUS EXCLUSIVE TRUSCON DESIGNS



TRUSCON
STEEL COMPANY

YOUNGSTOWN • OHIO
Washington and other offices
in principal cities

On and Off the Record



PHIL CREDEN—"We have got to tell the story of distribution." He said that during a talk on public relations at the NRLDA annual meeting in San Francisco. In a day when too many people think of public relations as being simply a bag of tricks, that statement of Creden's is nothing less than profound.

PUBLIC RELATIONS—In the past year the need for public relations programs has been recognized. The immediate result, for the most part, has been a group of stunts calculated to shock the public into an awareness of something. What that something is, usually is not readily apparent from the publicity stunt, misnamed "public relations."

STUNTS—They may have some value in making people aware of the existence of an industry or a business, but their value in the field of public relations is extremely dubious. The objective of a public relations program is to make customers and prospects appreciate the need for and the honesty and accountability of a business.

GRASS ROOTS—The local level, at the grass roots, is the most effective place to do public relations work. That is true in any industry, and particularly in the building industry, because of its localized character.

THE WAY—The way to do it is to embark on a dignified, sustained program of public education devoted to implanting in the public mind the conviction that a local business man is supplying a local need better and more economically than anyone else could.

CREDEN AGAIN—That is what he meant when he made his plea to retailers to tell the story of distribution. He pointed to National Home Week as the best way yet devised to do a collective, industry-wide public relations job at the local level where it really counts for something.

CHICAGO—The National Home Week celebration in that city proved that all segments of the home building industry can work together on a public relations or public education program. From that beginning, M. C. Huggett and

the officers and directors of the Chicago Metropolitan Home Builders Association have widened their vision, and are about ready to prove that a united industry at the local level can finance and support a year-round public relations program. It is significant that Phil Creden of the Edward Hines Lumber Co., who operates a chain of retail yards, is one of the leading pace-setters in both NHW and the new program.

GAS RANGES—Manufacturers' shipments of gas ranges reached an all-time high in October when 260,000 units were shipped. Figure is from Gas Appliance Manufacturers Association, and it is 78 per cent above the 1936-1940 average of October shipments.

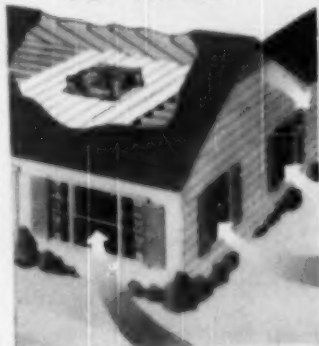
PREFAB IN EGYPT—An American firm will supervise construction of the first multi-story apartment house structures in Cairo, Egypt ever to be built entirely of prefabricated concrete. Inventor of the method is Karl P. Billner, Philadelphia.

ZINC DUST PAINTS—This relatively new development in paints prevents rust stains below windows caused by rust forming on screens. D. S. Long of Devco & Reynolds Co. says these new paints have gone relatively unnoticed even among painters.

WATER SHORTAGES—Horizontal Underground Drilling, Inc., and Ground Water, Inc., have been formed to end water shortages and water famines. Former will undertake horizontal drilling beneath street levels for all kinds of water and utility pipe and conduit. Latter will build and install water collector units for municipalities and industrial organizations which require large volumes of water.

BRITISH MAGAZINES—An editor of one of them recently stated that he had a waiting list of 6,000 whose applications for subscriptions could not be filled on account of the paper shortage. In answer to a question about his total circulation, he made it quite clear that British magazines never divulge publicly or privately what their circulation is. Wonder what an advertiser in this country would say if told the circulation statement was none of his business.

LOW-COST HOME COOLING IS HERE!



Easily installed attic unit gives cool comfort in hottest weather

No investment can give home owners as much comfort and pleasure as a Hunter Attic Fan. This modern convenience is now being used in thousands of houses and apartments throughout the nation. Low in initial cost and with no upkeep expense, the Hunter Attic Fan is practical for homes in all price ranges.

Installation of Hunter's new, compact package fan is simple and inexpensive. Fan, motor, suction box and shutter are all in one unit that requires only a ceiling opening in hallway and 17" clearance in attic. Four models, ranging from 4700 CFM to 9500 CFM, to fit any home size and climate. Quiet, powerful, dependable. Manufactured by Hunter, exclusive fan makers for 64 years.



Hunter Fan and Ventilating Company
341 South Front Street,
Memphis, Tenn.

Send copy of "How to Cool for Comfort" to:

Name _____

Address _____

City & State _____

Hunter
Package
Attic Fans

Famous builder, William Levitt, says:

"Sales come easy

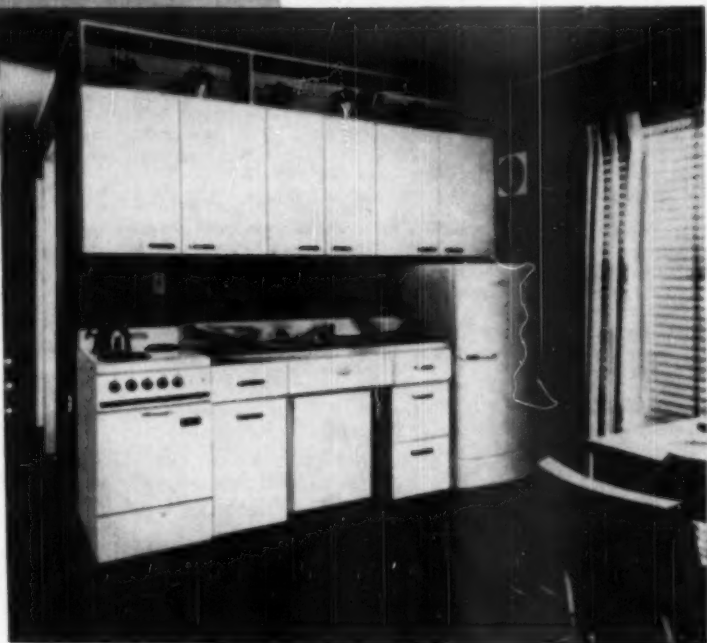
when you give people what they want, and that certainly includes Electric Ranges."



This remarkable 4-room-and-bath Levitt Home on a 60 x 100 plot in Levittown, Long Island, includes a completely equipped kitchen. Mr. Levitt says: "The time to install an Electric Range is when you're building a house. That cuts installation cost, and provides a definite sales feature."

Here is the straight-line kitchen-dinette featured in the Levitt Homes. It's modern, it saves steps, time and work for the homemaker. Equipment includes a modern range with automatic oven control and—OF COURSE... IT'S ELECTRIC!

EQUIP
YOUR HOUSES WITH
ELECTRIC
RANGES



Successful builders everywhere recognize the public demand for modern cooking equipment. As Mr. William Levitt, President of Levitt & Sons, Inc., says: "When you offer home buyers what they want, at a price they can afford to pay, your selling job is practically done. Among the features that have made Levitt Homes as efficient to live in as they are good to look at is the modern Electric Range in the kitchen. People really go for it."

ELECTRIC RANGE SECTION • National Electrical Manufacturers Association, 155 East 40th Street, New York 17, N. Y.

ADMIRAL • COOLERATOR • CROSLEY • FRIGIDAIRE • GENERAL ELECTRIC • GIBSON • HOTPOINT
KELVATOR • LIDO • MONARCH • NORGE • QUALITY • UNIVERSAL • WESTINGHOUSE

EDITORS'

Round Table

MERCHANDISING is being changed by architectural developments (or perhaps it is the reverse) more in California than anywhere else, including Texas. Californians probably are not the originators of all the new types of retail establishments that are making shopping easier.

IT IS IN TEXAS, for instance, that the drive-in hotel originated, and was then developed as a suburban drive-in. The St. Anthony Hotel in San Antonio seems to have provided the first drive-in service by establishing a registration desk in the attached garage, and permitting tired and worn tourists to reach their rooms on a special elevator without appearing in the lobby.

A DALLAS BUILDER was the first to design and construct a 200-room two-story luxury hotel adjacent to a suburban shopping center, and provide parking space for tourists. There are several in Dallas, and others are under way in several Texas cities. The theory is that decentralization of downtown shopping facilities should apply to hotels.

THE CORRIGAN (that's the Dallas builder's name) idea of modern hotel construction is to combine the best features of a traditional downtown hostelry with the facilities of the best motels. The idea has worked and is spreading.

THERE ARE other developments, including laundrettes, self-service gasoline stations, drive-in banks, two-minute car washing stations, to mention a few.

WHETHER CALIFORNIA initiated any or all of these, certainly they are developing more rapidly in that state than anywhere else.

SELF-SERVICE gasoline stations enable the driver to pull up to a stand, fill the tank of his car with the amount of gasoline he wants—at five cents a gallon less than the usual price—and pay an attendant who does nothing but handle cash. The driver can order oil, and put it in. He cleans his own windows, and takes care of his own air and water needs. Price and fast service make the stations popular.

(Continued on page 47)



BUTT HINGES

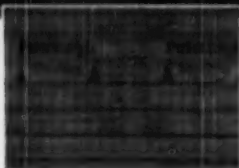
Quality Hardware Since 1865



Pittsburgh Steeltex

Positive reinforcing for plaster, stucco,
masonry veneer, roofs and floors

PLASTER (Interior walls and ceilings)



Steeltex for Plaster (Type A) is a 2" x 2" welded wire fabric secured to a special absorbent backing. Corrugations in the wire mesh give the Steeltex sheet board-like rigidity. The backing is absorbent enough to hold wet mortar in place until it has set about the reinforcing wires.

STUCCO



Steeltex for Stucco is 2" x 2" mesh of welded wire reinforcing fabric secured to a waterproofed backing made of a double layer of paper, with layers cemented to each other by a layer of mastic compound.



C-214 and C-216 (Self-Furring) reinforcing fabrics are welded wire meshes without backing. C-214 is made of 14-gauge and C-216 is made of 16-gauge wire. They may be applied over wood or composition sheathing in new construction or over any type of old exterior walls for remodeling work.

MASONRY VENEER



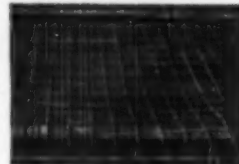
Steeltex for masonry veneer is a combination of welded wire reinforcing fabric (2" x 2" mesh) and specially designed waterproofed backing. The backing is attached to the fabric by crimped stitch wires which permit it to fall away from the steel for automatic embedment of the reinforcing fabric.

FLOORS and ROOFS



Steeltex Floor Lath is composed of steel wire reinforcing mesh (3" x 4") which is attached to a tough cord-reinforced water resistant backing by means of crimped stitched wires which also properly space the reinforcing mesh to permit complete embedment of the reinforcement in the slab.

WELDED WIRE REINFORCEMENT



Pittsburgh reinforcing is an electrically welded wire fabric of square or rectangular mesh, adaptable to a number of uses such as sidewalks, driveways, floors, retaining walls, column and beam wrapping, fireproofing of steel frameworks and many others.

Write Dept. AB for descriptive literature
or see our file in Sweet's Catalog

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Pittsburgh 30, Pa.

EDITORS' Round Table

(Continued from page 45)

THE TWO-MINUTE car wash is gaining popularity in many places, particularly in California and Texas. The driver alights, and his car is placed on a track. Enormous brushes completely swath the car as it progresses along the track. In less than a minute it emerges dripping with water. A corps of attendants meet it with drying cloths, and in about the time it takes the owner to pay his bill and walk to the end of the wash line his clean car is ready for him.

DRIVE-IN BANKS are not unknown in the Middle West, but California probably is the only place where this type of bank is being built in small towns and suburban communities.

DRIVE-UP bank probably would be a better descriptive term, because the driver does not enter the bank. He drives up to a window on the side of the building, places his book, slips, checks and cash in a window. An inside attendant operates the burglar-proof and bullet-proof window, performs the necessary operation, and in less than one minute, the driver leaves.

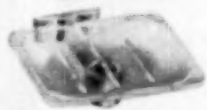
SPECIAL EQUIPMENT and unique design characterize these banks, and speed the transactions.

LAUNDERETTES, self-service super-marts, drive-in movie theatres, car-service lunch stands and planned community shopping centers are not as new as some of these other innovations, but all of them indicate a new merchandising trend based on structures specially designed to facilitate selling.

TO CALIFORNIA must go the laurel for the latest development in general merchandise stores. It is Bullocks new building in Pasadena. Exterior walls are practically all glass. Immediately inside the main entrance, merchandise is encountered. There is no gridiron pattern for the aisles. Merchandise tables are loaded without reserve stock, and contain only the display items. Full view of every floor is afforded from any position on the floor. Ample off-the-street parking facilities are provided.

(Continued on page 49)

You can specify...



...new Hall-Mack Crystalcrome — jewel-like beauty — brilliant solid chromed brass combined with crystal-clear Lucite — accessories of the finest quality.

...Aristocrome Accessories — classic styling—heavy, rich construction and appearance — chromium plated solid brass—there's no finer accessory line.

...popular Coronado — distinctive modern styling and luxurious looks—for bathroom requirements in the "medium" price range.

...and Tempo Accessories — solid quality at low cost — simple, functional beauty and long life—for modest budgets.

You can put long-established Hall-Mack quality in every bathroom you build, regardless of the budget at hand. Include this recognized, wanted extra quality in the homes you design and build!

Hall-Mack also makes a complete selection of fine Medicine Cabinets... and a number of exclusive Bathroom Specialties which are unique in convenience features.

Bathroom Accessories are Important...

You build a bathroom for a lifetime of use—make sure that the accessories you select have lasting Hall-Mack Quality in style and construction.



See our complete catalog in
Sweet's Architectural File.

HALL-MACK COMPANY

1344 W. Washington Blvd., Los Angeles 7, California
7455 Exchange Avenue, Chicago 49, Illinois



A Two-Purpose Car—Your Best Buy!

The doubly-useful Willys Station Wagon fits builders' needs to a T! It's a smooth-riding, easy to handle passenger car and a practical workday vehicle built for hard use.

Lift out the seats and you have up to 120 cubic feet of hauling space—room for carrying all your tools and a big load of bulky material. The interior of the Willys Station Wagon is washable—easily cleans up to look its Sunday best, inside and out.

With all seats in there's ample room for six adults in its all-steel body. Exclusive Planadyne suspension levels out road bumps, gives greater stability and riding-comfort.

Functional design saves you money on upkeep... both 4 and 6 cylinder models include gas-stretching overdrive at no extra cost. See this combined work and family car at your Willys-Overland dealer.

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JOB OR FAMILY**



WILLYS

Station Wagon

4 or 6 Cylinders—Overdrive at No Extra Cost.
4-Wheel Drive, 4-Cylinder Model also Available.



WILLYS-OVERLAND MOTORS, TOLEDO 1, OHIO • MAKERS OF AMERICA'S MOST USEFUL VEHICLES

EDITORS' Round Table

(Continued from page 47)

LOS ANGELES builders are offering many houses for less than \$7,000. Usual size is about 750 square feet. They have stucco exteriors, embellished with boards, asphalt shingle roofs, hardwood floors, or in some cases concrete floors covered with carpeting or asphalt tile. One-car garages are included, and lots average 50 x 100. Most are offered at no down payment, and about \$45 to \$50 a month. Buyer has to have escrow and im-pound charges of around \$150. Most interiors are plastered, but dry-wall is gaining in popularity.

CALIFORNIA in the middle of last November could fulfill almost any climate specification in a one-half hour drive. It was possible to stand at the foot of a towering peak in Yosemite shivering and in an overcoat and gloves, and 30 minutes later be uncomfortably warm in shirt sleeves driving through the San Joaquin Valley, where the temperature at mid-day was 93 degrees.

"YOUR READERS," writes Al Balch from Seattle, "keep your magazine for many years, and continue to refer to its pages." Al recently had a letter from a G.I. in an eastern state. The G.I. had picked up a copy of the February, 1946 issue of *American Builder* at a local establishment. He wrote, "There are no plans here as attractive as your Wedgwood home plan. Is there any way that you could make the few small changes suggested here, and make the plan available to us?"

ANOTHER READER, Tom Brunshall, an American citizen working in Australia, also referred to our Feb. 1946 issue for a house plan. He purchased a couple of lots in a suburban area outside Alexandria, N.S.W., and wants to build *American Builder* plan No. AB-101; a plan developed and used by Al Balch of Seattle. The building inspector said he would OK it except for the eight foot ceilings. Australia requires nine feet.

OHIO kicked off the winter convention season with the annual meeting of the Ohio Home Builders Association at Dayton early in December. Preliminary registration indicated the largest attendance thus far.

and trees...
not schedule...
property adjoining...
estimated. The wall...
work fill will be cleaned up...
shrubbery will be protected. No pla...
Bermico Sewer Pipe for house-to-house...
connections.
I undertake to complete all work covered...
your contract to your entire satisfaction.
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OK
John C.

8-FT.
LENGTH

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Facts that Prove Bermico Can Slash Your Building Costs

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What's more, Bermico is rootproof and watertight... unaffected by atmospheric extremes. And the smooth uniform bore delivers a high capacity water flow.

Each length of Bermico must measure up to a strict and unvarying engineering standard. That explains why millions of feet of Bermico are now serving in house-to-sewer connections, septic tank disposal and drainage systems.

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WEIGHS
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Capitalize on the tremendous sales appeal of

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AT ITS PRACTICAL BEST!

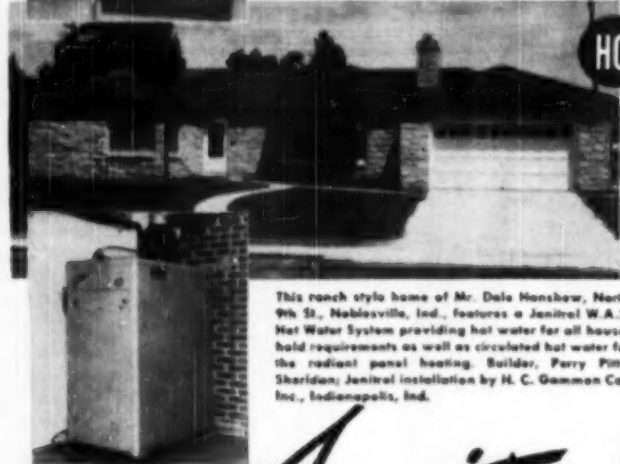


Attractive home from plans of George H. Burrows Associates and built by Maynard E. Sheldon for J. E. Carson, Belvoir Blvd., Cleveland, Ohio, utilizes ceilings for warm air radiant heating. Janitrol gas unit is located in hallway closet on first floor. Installation by Home and Industrial Heating Co., Cleveland.

WARM AIR RADIANT PANEL

The system of using warm air for radiant heating offers many advantages... it's simple... it's practical... Janitrol can point to hundreds of installations of proven performance and home owner satisfaction. Floors or ceilings can be used for radiating surfaces, depending on the type of house to be heated.

Janitrol warm air radiant panel installations are not expensive, they are practically engineered for homes in \$10,000 bracket as well as for more expensive custom built homes. Write for complete data.



This ranch style home of Mr. Dale Hanson, North 9th St., Noblesville, Ind., features a Janitrol W.A.S. Hot Water System providing hot water for all household requirements as well as circulated hot water for the radiant panel heating. Builder, Perry Pitts, Sheridan; Janitrol installation by H. C. Gammon Co., Inc., Indianapolis, Ind.

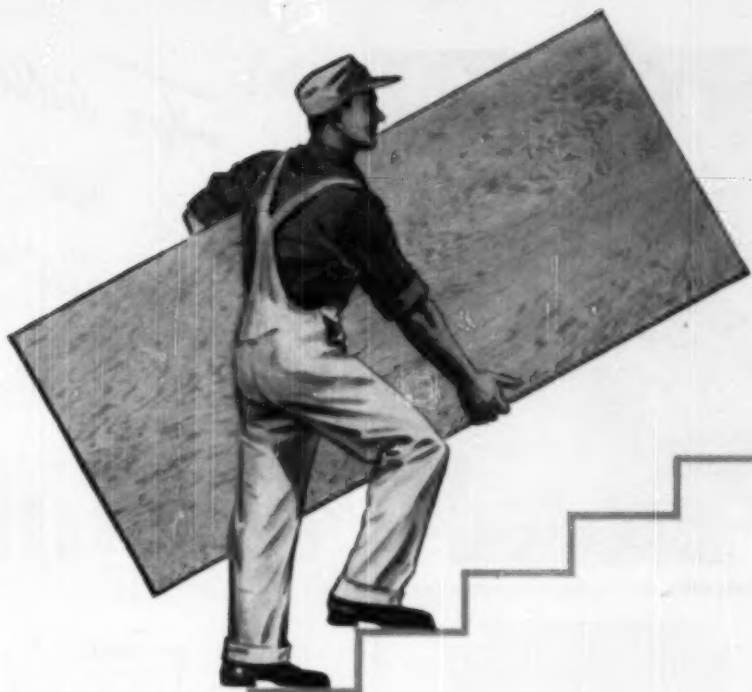
HOT WATER RADIANT PANEL

In small basementless houses up to luxurious 14 room country homes, Janitrol W. A. S. Hot Water Systems are proving their many advantages as the heat generating unit for both floor and ceiling radiant panel heating. These Janitrols also provide in a single compact unit, an abundance of hot water for all domestic uses. You can feature Janitrol's proven performance for hot water radiant heating either as oil or gas (including L.P.) fired equipment. Write today for complete specifications.

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Write As a builder you should have a complete file on Janitrol equipment for radiant heating. Write for your manuals today.

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THROUGH EVERY STEP OF THE BUILDING JOB

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Quality goes up because plywood's durability... split-proofness... its exceptional strength... its remarkable rigidity... its inherent real wood qualities... all contribute to better building.

DOWN GO COSTS

Costs go down because big, light plywood panels save labor, cut building time 25% to 50%. Plywood is easy to work with everyday hand or power tools. Rugged plywood panels are simple to handle, won't crack, chip, shatter, puncture, or break during construction.

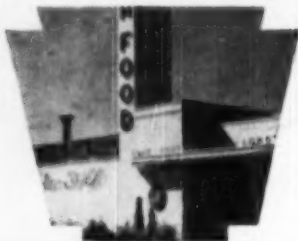
WITH DURABLE, MODERN DOUGLAS FIR

PLYWOOD

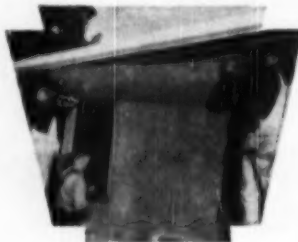
UP GOES QUALITY



PlyShield siding gives homes distinctive beauty!



PlyShield siding gives buildings added appeal!



PlyShield is best of all materials for soffits!



PlyShield for breezeway ceilings and gable ends!

*For siding
that's Modern...
durable...distinctive*

PLYSHIELD



STIMULATING EXTERIORS for homes, garages, vacation cottages . . . for commercial and industrial structures—these are PlyShield's greatest contribution to modern construction. The large panels of PlyShield can be applied either horizontally or vertically, using molded battens, vee-grooves, or flush joints to create unusual design. Or PlyShield can be applied in third or half-panel widths as another means of distinctive siding. Use it to advantage, as well, for gable ends, entrance treatments, paneling above or below windows . . . for soffits, porch ceilings . . . as a complement to other building material.

PlyShield is manufactured with completely waterproof resin adhesive, identified as an Exterior-type plywood by the designation "EXT-DPPA" marked on the panel. This versatile, durable, Exterior plywood panel has a face veneer that's smooth . . . sound . . . sanded to take paint and other finishes easily, attractively and serviceably. PlyShield's back veneer—also sanded smooth—is allowed certain appearance qualifications. But these do not affect the strength of the panel—merely contribute to its overall economy.

Other grades within Exterior-type plywood are: Exterior A-A, with both faces of highest appearance quality; Exterior A-B, which in many cases will serve similar use purposes as "A-A"; Exterior Utility, for outdoor uses where appearance is of little consideration; Exterior Sheathing, an unsanded construction grade; and Exterior Concrete Form, for maximum re-use form work.

DOWN GO COSTS

UP GOES QUALITY

*For sheathing that's
stronger...tighter
easier to apply—*

PLYSCORD








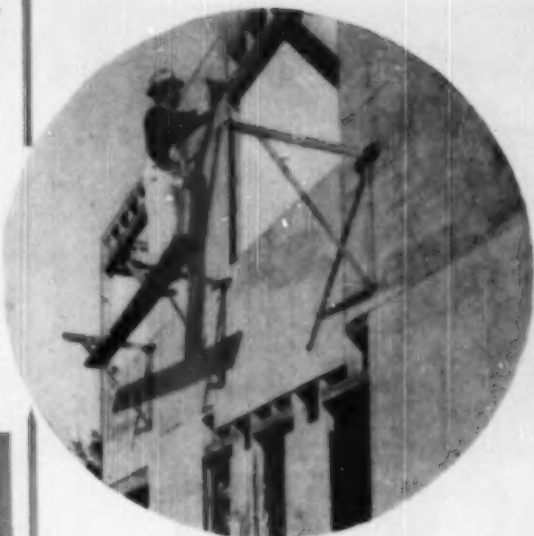
TIME-TESTED PLYSCORD—the strong, rigid, unadorned, minimum-cost sheathing grade of Douglas fir plywood—has been building better buildings since 1938. PlyScord speeds application of wall sheathing, roof decking, and sub-flooring—saving as much as 50% in time. Builds a stronger, tighter home, too. Walls with openings are more than twice as strong and rigid when sheathed with plywood as with conventional 1 x 8" diagonal sheathing, according to U. S. Government tests! PlyScord walls are draft-free, meaning a warmer, more comfortable house. Roof sheathing resists shrinkage and swelling, provides an excellent deck for roofing materials which would be damaged by buckling.

PlyScord subfloors give a smooth, dry, level working platform. The large panels go down faster, speed work ... provide insulation ... present a horizontal diaphragm

which resists earthquakes and high winds.

Use Plyscord for "one-use" basement forms, too—it speeds form work, gives a smooth concrete surface ... can be easily stripped and re-used for subflooring. Another saving!

STRENGTH AND RIGIDITY OF FRAME WALLS <small>From U. S. Forest Products Laboratory Tests With Openings</small>			
Sheathing Material	Positive Rigidity	Relative Strength	
 1x8" DIAGONAL SHEATHING	1.0	1.3	
 24/32" FIBERBOARD	1.6	2.1	
 HORIZONTAL with LET-IN BRACES	1.5	2.2	
 1/4" PLYWOOD NAILED	2.0	2.8	
 1/4" PLYWOOD GLUED TO FRAME	3.7	4.0	



PlyScord wall sheathing is stronger, more rigid!



PlyScord is a superior roof decking material!



PlyScord subfloors save work, are firmer by far!



PlyScord forms are re-usable as sheathing!

DOWN GO COSTS

UP GOES QUALITY

DOWN GO COSTS



PlyPanel walls have the warm charm of real wood!



PlyPanel lends itself to a variety of treatments!



PlyPanel is ideal under wall-to-wall coverings!



PlyPanel builds attractive displays and fixtures!

*For interiors that
sparkle and serve
with distinction*

PLYPANEL



PLYPANEL MAKES POSSIBLE interiors that are in tune with today's and tomorrow's architectural trend. These real wood panels for interior walls and ceilings lend warmth and beauty. Panel edges can be butted flush, vee-grooved, covered with decorative moldings or inset moldings. PlyPanel for partitions and built-ins . . . for a wide variety of uses where one surface is to be exposed and finished . . . for dry, air-tight walls . . . for an economical answer to remodeling jobs, making them easier to plan, easier to execute! The beauty of pleasant, real wood PlyPaneled walls is enhanced by the use of a mellow, natural, or light stain-glass . . . or PlyPanel can be painted . . . enameled . . . or papered.

PlyPanel speeds construction and occupancy . . . there is no introduction of water, no water for walls to "dry out". The walls are truly dry, tight, durable . . . and PlyPanel is split-proof, puncture-proof against all ordinary hazards!

Other grades of interior-type plywood are: Interior A-A, with both faces of highest appearance quality, for partitions, cabinet doors and other uses where both sides are to have a fine finish; Interior A-B, with one face suitable for fine finish, the other paintable but of slightly lower appearance value; Plybase, a special grade for underlay floor under wall-to-wall floor coverings, and Plyform, the multiple re-use concrete form panel.



LARGE, LIGHT, STRONG
REAL WOOD PANELS

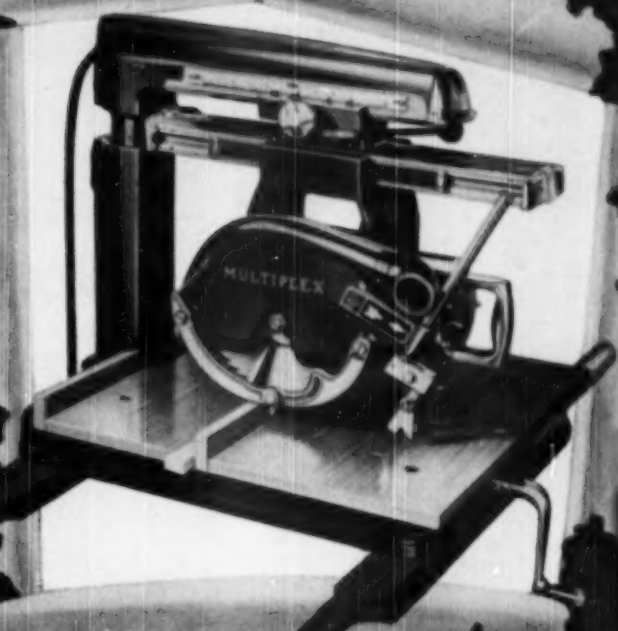
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Our exclusive Double Radial Action... gives you unequalled capacity and more flexibility for your money!



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- ✓ Saves material
- ✓ Saves operator
- ✓ Speeds up cutting
- ✓ Speeds up nailing
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Makes profits on every cut from cellar to roof!

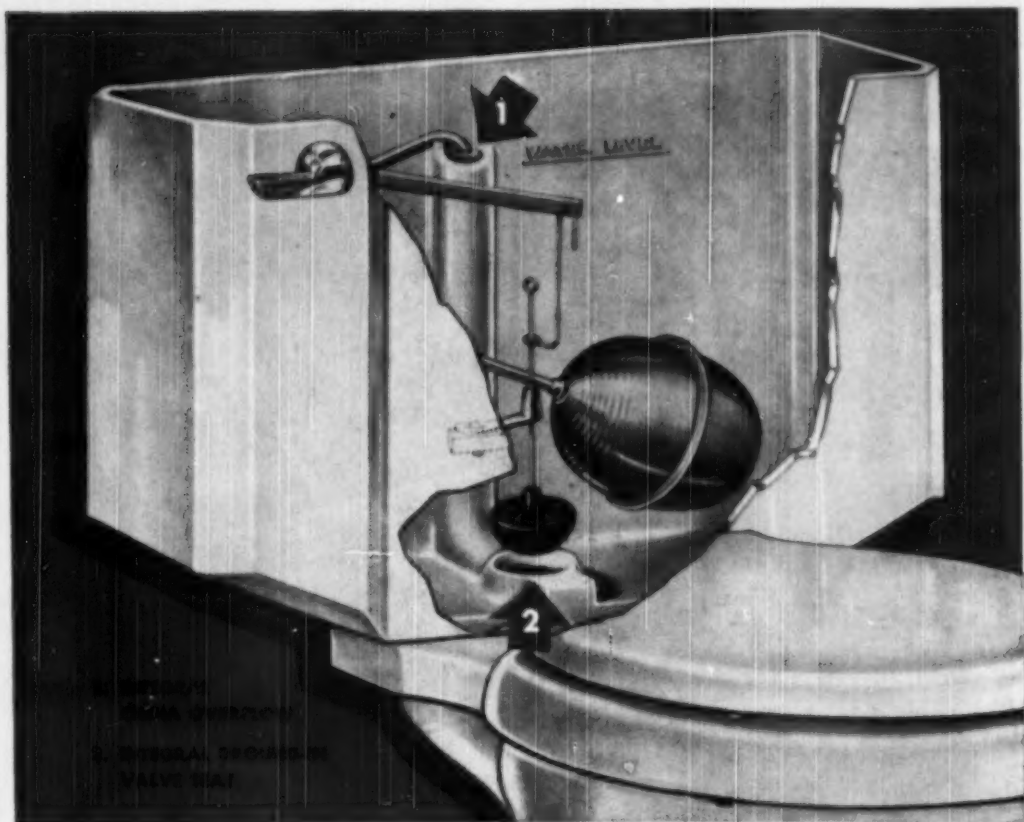


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The Eljer *integral china overflow and ground-in valve seat* are made of real vitreous china . . . a part of the tank itself. This eliminates thin metal tubes and metal seats that wear and corrode. The construction is *foolproof* . . . built to last the life of the closet. Vitreous china cannot corrode. An Eljer Fixture with

this extra quality costs no more than an *ordinary* fixture . . . even less, considering the resulting savings in maintenance expense.

Any plumber who points out these extra values to homeowners will make extra sales . . . and have satisfied customers. To have quality customers, sell quality plumbing fixtures. Sell Eljer . . . see your Eljer Distributor or write Eljer Co., Box 192, Ford City, Pa.

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ASSOCIATIONS

Their Plans and Activities



NAHB Directors Propose '3 Year Plan' To Maintain Peak Building Volume



SPEAKERS table at NAHB directors banquet. Left to right: Raymond Foley, HHFA administrator; NAHB president Rodney M. Lockwood; Executive Vice President Frank W. Cortright; FHA Commissioner Franklin D. Richards; Vice President William P. Atkinson; Charles Commander, Jacksonville, Fla.; Sam Daniel, Miami, Fla.; and Charles Bubcock, Miami.

With all construction records for new houses being broken, NAHB directors and their committees took a long look ahead at their fall meeting in Miami Beach and came out with a prescription for their industry: A "three-year plan" for home building.

At the time the meeting convened the Department of Labor announced that for the sixth successive month an unequalled number of new homes had been put under way, putting the year's output ahead of the record-breaking year of 1948.

Despite the current high levels, the whole tenor of the Florida meeting was to find ways and means of assuring that such high volume building could be continued throughout the next few years; and NAHB leaders discussed fully the temporary extensions of the last few years, the constant changes in regulations, and the expiration next spring of current insuring aids.

As an answer to the need for more stability in financing and government aids in this field, an outline of requirements for continuous productive financing was drafted by Chairman Thomas P. Coogan's mortgage finance committee. These suggestions were offered: Firm commitments on VA loans to shore up this important part of home building activity.

Parity for FHA and VA interest rates to eliminate the competitive situations created by lack of parity. The level of interest would be whatever the money market requires.

Stimulation of two-to-four family units for minimum rental housing under FHA's section 203 with lowered minimum construction requirements. This would have a term of 32 years and seven months. NAHB

proposed to stimulate this type of construction by the same kind of concentrated drive it put behind its economy house program.

Reviving the 207 rental program with the loan ratio raised from 80 to 85 per cent with present technical handicaps to be eliminated. Procedures, it was urged, should be streamlined along the lines of the 508 program. Enactment of legislation to make possible low-cost sales units under FHA's Title I, Section 8.

Resumption of purchasing by FNMA of any insured mortgages.

Enactment of Section 203 (B) 2 (D) with discretionary mortgage limits as urged by NAHB and passed by the House this year.

Establishment of such a program, augmented by necessary authorizations and extensions, NAHB felt, would assure 3,000,000 new housing units for middle and lower income families, both for sale and rent. This objective was precisely what HHFA Administrator Raymond M. Foley told the Directors was needed.

Another note of practical warning about the swiftly-moving construction situation was sounded by Rodney M. Lockwood, NAHB president. Pointing

(Continued on page 126)

NRLDA Meeting Gets Wide Publicity



NRLDA national public relations contest winners received awards at San Francisco meeting. Standing, from left: Wilfred E. Gite, Lumber Service Bureau, St. Paul, Minn.; Paul Collier, secretary, North-eastern Retail Lumber Dealers Assn., who accepted awards for A. W. Berrin Co., Bridgeport, Conn.; William Scharpf, Scharpf Brothers, Albany, Ore.; (seated) I. M. Williams, Beaver Dam Manufacturing and Supply Co., Beaver Dam, Ky.; Norman P. Hosen, William Fratcher Co., North Chelmsford, Mass.; and Joseph Grossman, L. Grossman and Sons, Inc., Quincy, Mass.

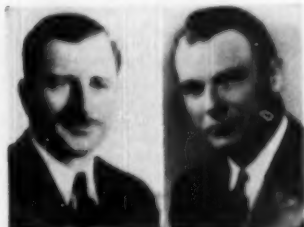
Reports from the annual NRLDA directors meeting held in San Francisco Nov. 9-11 indicate that the session was highly successful in all respects, providing valuable discussions of industry objectives, outstandingly interesting talks by guest speakers and a great deal of favorable national publicity through press and radio. Approximately 700 dealers and other persons in the industry attended. Re-elected for another term were President Cyrus B. Sweet, Vice President Clyde A. Fulton and Treasurer W. A. Barksdale.

In one of the featured speeches, Sen. Kenneth Wherry (Rep., Neb.) Senate minority leader and a sharp Administration critic, described the Truman administration as "the biggest give-away show on earth," and accused the president of employing a technique "which leads down the road to Communism because it attempts to buy freedom with material things." Accounts of the talk, a comprehensive attack on government spending, were carried by national press services; and it was broadcast over the Mutual Net-

(Continued on page 59)

Major Part of NAHB Meeting to Deal With Builders' Practical Problems

The sixth Annual NAHB Convention and Exposition in Chicago, Feb. 19-21, will be devoted largely to the practical problem of home builders, according to Executive Vice President Frank W. Corright. "The most notable feature of the show," he said, "and it will be the most diversified we have ever attempted, is the fact that it will be of immediate and practical value to every builder who attends."



D. BOHANNON FRITZ BURNS

Convention Committee Chairman E. M. Spiegel of Passaic, N. J., reports that the program is divided into two sections. The first consists of major addresses, discussion panels, audience participation and inspirational features. The second consists of nine special clinics on selected builders' problems.

One entire session has been reserved for an on-the-spot demonstration of outstanding new building equipment and methods. W. Hamilton Crawford of Baton Rouge, La., a member of the convention committee, and Carl G. Lans, NAHB's technical service director, are supervising the demonstration which is expected to attract a capacity audience.

A comprehensive discussion of mortgage finance will bring together a panel composed of National Housing Administrator Raymond M. Foley, FHA Commissioner Franklin Richards, T. B. King, Chief Loan Guaranty Officer of the Veterans Administration, officials of various private lending institutions, veterans' representatives and home builders. Thomas P. Coogan, NAHB first vice president from Miami, will be moderator.

Another featured session will be devoted to designing and selling techniques. Led by John Highland of Buffalo, N. Y., a group of architect-builders will debate the various features of modern design, with particular emphasis on conventional versus contemporary house design. W. P. "Bill" Atkinson of Oklahoma City has arranged a dramatization entitled, "Designing and Selling Tomorrow's Homes." This session will be concluded with a presentation by Fritz Burns of Los Angeles, president of Kaiser Community Homes. He will reveal the

techniques by which his organization has sold more than 6,000 postwar homes.

A stimulating program developed by women home builders is also scheduled. At this session, eight women authorities on house design, use of color, lighting and decoration will present the woman's viewpoint. Mrs. Henry Mollgaard of Milwaukee is in charge of the women's program and will be assisted by Mrs. Henry Chalaron of New Orleans and Mrs. Maude Butler of Tulsa. The featured speakers will include Josephine Myers of Katzenbach Co., Maxine Livingston of Parents Magazine, and Beatrice West of Rahr Color Clinic, and representatives of Lightolier Co. One of the features of the program will be the presentation of awards in a national contest for women architectural students sponsored by the *American Builder* and the Women's Division of NAHB.

NAREB Speakers Predict Bright Building Future, But Warn Against Socialism

Predictions of a heavy demand for housing for at least the next two or three years, and a warning that the United States is on the brink of socialism, were expressed by speakers at the 42nd annual convention of the National Association of Real Estate Boards held recently in Chicago.



FORMER Minnesota Governor Harold E. Stinson presents 1949 Industrial Award from the Society of Industrial Realtors to Alfred P. Sloan, Jr., chairman of the board of General Motors Corp. at the 42nd annual NAREB convention.

Forecast for a brisk housing demand was made by Realtor Albert W. Lockyer of White Plains, N. Y., before an open session of the American Institute of Real Estate Appraisers in conjunction with the NAREB convention. "I do not think the demand for housing is anywhere near satisfied," he said. His reasons were: "A sharp increase in the birth rate since the war and a

According to Convention-Exposition Director Paul S. Van Auker of Chicago, exhibitors, too, are expected to make a major contribution to current home building progress in the form of new ideas, products and services. About 160 leading manufacturers and other firms will participate in the Exposition, which will be far larger than in previous years. One-third of the exhibitors will be in the show for the first time, thereby expanding the variety and completeness of products to be shown.

The Exposition will fill all available exhibit space in the Stevens and Congress Hotels. A variety of informational and educational displays will be spotted throughout the exhibit areas. Outstanding in this classification will be the prize-winning entries in NAHB's National Neighborhood Development Contest together with 100 other outstanding entries. The contest, conducted by the Association's Land Planning Committee under the chairmanship of David D. Bohannon, noted California developer, includes projects of all types, sizes and price ranges.



ROBERT F. GERHOLZ was elected president of NAREB at national convention.

breaking up of families into two or more groups, each desirous of creating its own home. . . . Closely following this increase is the favorable attitude toward home ownership which has grown up since the war."

Optimism for the residential building future was also expressed by Edward Mendenhall, president of the National Institute of Real Estate Brokers; F. Poche Waguespack and Daniel F. Sheehan, past presidents of the NIREB; W. L. Cooper, first vice president of the NIREB, and Walter S. Dayton, member of the NIREB board of governors. Speaking in a press conference, these men, representing five geographical sectors of the country, gave varied reasons for their anticipation of a continued brisk housing demand. "The 950,000 people who became home owners in 1949 are out now selling homes," said Walter Dayton of New York. Mr. Waguespack of New Orleans explained that those people between 20 and 30 years old now have better buying privileges than ever before. "That's why the market will be

(Continued on page 164)

NRLDA Meeting

(Continued from page 57)



MRS. H. B. NORTHUP, wife of the NRLDA executive vice president, shows wives of delegates convenor and handkerchief presented to them by *American Builder*, as J. S. Crane, *American Builder* vice president looks on.

work in several western states. Excerpts of the talk were heard on Mutual's nation-wide news round-up.

In discussing "The World in which We Live," Sen. Harry B. Cain (Rep., Wash.), a member of the Senate banking and currency committee, asserted that the executive branch of the government had "expropriated" the rights of Congress. He declared that only by restoring control of its purse strings to the public and the public's elected representatives would the nation be able to maintain its freedom.

President Sweet assailed Federal housing as more costly than private construction. He said that the building



PHILIP CREDON, chairman of the public relations committee, makes annual report

industry. "While defending itself constantly from the encroachment of shackling legislation had proved conclusively that the free enterprise system still produces and distributes the best and the most and, if living stand-

75% Home Ownership for U. S. Families Is Savings and Loan League Goal

Savings associations were called upon by the United States Savings and Loan League to push "renewed emphasis" toward a goal of 75 per cent home ownership among American families at the League's 57th annual convention in Chicago which opened Nov. 18 and closed Nov. 22.

The request came in a part of a statement of policy issued by the League at the conclusion of the convention. Directors who adopted the policy leveled sharp criticism at the insistence of the Administration that the current Federal deficit—estimates vary from \$5 billion to \$15 billion—be made up in the form of increased taxes. Said the League directors:

"It is obvious that a rise in income taxes can come only at the expense of consumer purchasing power, and that any such reduction in buying power will inevitably hamper the trend to home ownership. It will mean that the average family has less money to spend for its shelter and less confidence in its future ability to meet payments on a home."

A sharp criticism was leveled at the "glittering promises of politicians" by Henry S. Kingman, president of the National Association of Mutual Savings Banks in a speech at the convention. "Such schemes," he asserted, "come dressed up in new clothing from time to time. They are referred to by various names such as the Welfare State, statism, the New Deal, or Fair Deal. Sooner or later the people of a nation find out that these promises must be paid for . . . then they realize it was nothing more than a raw deal."

Increased competition throughout

ards mean anything, at lowest individual cost in labor, man hours, and in human effort."

The discussion of public relations occupied an important part in the program, with talks being delivered on the subject by Public Relations Counselors Russell F. Bjorn of Stockton, Calif., Ted Baldwin of New York and Philip Credon, chairman of the NRLDA public relations committee. Credon cited the association's current objectives and recommendations, and pointed out that through greater co-operation and alertness at all levels the industry's program was becoming increasingly effective.

Social events included a "Welcome to California" cocktail party, sponsored by the Lumber Merchants Association of Northern California and the Southern California Retail Lumber Association; a conducted sightseeing tour and the annual Ladies Luncheon. A Hoo-Hoo concatenation was staged jointly by San Francisco Hoo-Hoo Club No. 9 and Oakland Club No. 39.

the sectors of the economy in 1950 was predicted by Dr. Arthur M. Weimer, dean of the School of Business, Indiana university.

"Every type of business will be competing intensively with every other type for a slice of the consumer's dollar," he said.



HENRY A. BUBB

Dr. Weimer predicted that the associations would pour an even greater proportion of their lending funds into the building of new homes in 1950 than they did in 1949. "There is general agreement that more multi-family housing will be constructed in 1950 than during 1949," he added. "Developments in this area, of course, depend on the continuation of FHA Section 608 financing and on the rapidity with which public housing projects are started under the Housing Act of 1949."

"Costs of living, although showing little tendency toward further increase, are not expected to decline substantially. This will be an important factor in analysis of borrower incomes as related to the mortgage risk," he concluded.

Representative Jesse F. Wolcott (Rep., Mich.) spoke in a closing session of the convention, reminding the country that the peace of the world depends on the stability of the American dollar. That is why the nation has to be concerned about any manipulation of its value which is threatened, he said.

An estimated 2,200 savings association executives, representing a \$14 billion dollar business, were in Chicago for the five-day convention. Henry A. Bubb, of Topeka, Kas., was elected president of the League, and Walter J. L. Ray, Detroit, was elected vice president.

"Home Builders Funfest"

A "Home Builders Funfest" was sponsored by the Home Builders Association of Dallas Dec. 6 at Pappy's Showland supper club in the Texas city. The program included vaudeville acts and dancing.



Cy Sweet Says -

C. B. SWEET, President, National
Retail Lumber Dealers Association

At the Oklahoma Lumber Dealers Association banquet on the 19th of last October in Oklahoma City, I was made an honorary Chief in the Kiowa Indian tribe. When I was first told that this ceremony was to take place, I was amused, feeling sure it would be a hilarious affair.

The time came for the ceremony. An old Chief, a man in his late seventies, arrived with eight or ten young braves, all in tribal regalia. One look at the wrinkled and weather-beaten face of the Chief convinced me that he was completely serious in the duty he was to perform.

He requested silence and then intoned a long Indian prayer in his native tongue. Following this his son, acting as his interpreter, instructed me to dance with the Chief. Impressed with the sincerity of the Indians, I was fast losing the feeling I had entertained originally that this was any light matter, and the last vestige of that feeling left me when he placed a beautiful war bonnet on my head, giving me my Indian name of Tigh-Da-Ugh, while the young braves did a tribal war dance around us.

At the conclusion of the dance I was expected to make a fitting response to the Chief and frankly I was in a panic. I kept thinking of what I could say to this grand old man that would convey to him my feeling of gratitude for the honor he had shown me. Before me stood one of the last remaining Chiefs of a once powerful people, unconquered rulers of the land and forests. The Indians had been the first free people of America, free before the advent of the white man; and they had fought valiantly a losing fight to keep that

freedom. The power and the glory of the past were in the old Chief's face when he bestowed the title of Chief upon me. My response to him was what I felt in my heart—that "I was extremely proud to be so honored by a true American."

In relating the above, I have in mind bringing to your attention a parallel situation arising in the United States between the lives of the Indians and the white men. On the one hand, we have the Indians conquered by the whites, and from then on dominated by the government of those same conquerors. Reservations, government specified, replace boundless grazing lands; government schools take care of education needs, government hospitals furnish care for the sick, and in general the government "looks after" the Indians.

On the other hand we have the white men, not a conquered people, but gradually allowing the government to dominate their lives, through the medium of bureaucracy. Our lands are being taken over with TVA's and CVA's, we are being told where to live, what we can grow on the land, what price we can receive for our labors, and it is proposed that the government tell us what doctors to use, and what our children shall be taught.

Isn't there a lesson for us in the white man's rule and benevolent treatment of the once powerful and free Indians? It seems to me we do not have to go to foreign countries to see government dominated peoples; we have one example right here at home, as I have just pointed out. Let us not allow this or any future generation to feel the yoke of a conqueror, bureaucratic or otherwise.

Clark E. McDonald Named Southern Sash and Door Secretary-Treasurer

Clark E. McDonald of Atlanta, Ga., has been appointed secretary-treasurer of the Southern Sash and Door Jobbers Association, it was recently announced by Association President C. E. Hughes of the Southern Sash and Door Co., Greenville, S. C. McDonald succeeds W. A. Seagle, secretary-treasurer for the past nine years.



CLARK E. McDONALD

McDonald holds an A.B. degree from Southwestern College, Memphis, Tenn., and master's degree from the Harvard University Graduate school of business administration. He has taught economics and business administration the last two years at the Atlanta division of the University of Georgia.

For the past four years, McDonald has been engaged in civic and trade association work in Atlanta, where he has served as vice president of the Junior Chamber of Commerce and secretary of the Kiwanis club. He is a member of the National Association of Civic Secretaries, the Governmental Research Association, the Tax Institute, American Society of Planning Officials and the Urban Land Institute.

During the war, he served as fiscal director for the Atlanta Army Service Forces Depot. He is a major in the Reserve Corps.

In addition to his regular duties as secretary-treasurer, McDonald will take an active part in the association's promotion program.

Home Show Set for MBA Meet

The 1950 national home show for the home-financing industry will be held in Detroit Sept. 27-29, in conjunction with the 37th annual convention of the Mortgage Bankers Association of America, according to a recent MBA announcement. Principal participants in the show will include leading manufacturers of home appliances and equipment, building materials and office equipment. An attendance of more than 1,700 mortgage lenders and investors is predicted, representing all sections of the country.

Chicago Gets Hoo-Hoo Club

Chicago Hoo-Hoo members, formerly on a chapter level, organized the first Chicago Hoo-Hoo Club at a meeting Nov. 22. H. F. Hasbrook of the Chicago and Riverdale Lumber Co. was elected president for the 1949-50 season. Other officers chosen at the meeting are: first vice president, E. W. Hammerschmidt, Hammerschmidt

Lumber and Fuel Co.; second vice president, T. L. Riordan, Harris Brothers Co.; and treasurer, H. P. Pool, Weyerhaeuser Sales Co. R. R. Clegg, Vicegerent Snark and district sales manager of American Lumber and Treating Co., was toastmaster.

Two members of the Supreme Nine, Ben Springer, international secretary and Edward Fischer, Supreme Bojman, addressed the Chicago members.

California Association Elects New Officers

Marshall Tilden of Riverside was elected president of the Building Contractors Association of California at the group's annual convention held recently at Coronado. Other officers named were: first vice president, William Baines, Los Angeles; second vice president, C. J. William Möllerburg, Sherman Oaks; secretary, Howard Nichols, Bakersfield; and treasurer, Harry Hanson, Los Angeles. Edward M. Sills is the executive vice president.



MARSHALL TILDEN

Convention business included a resolution which called on President Truman to request the immediate resignation of Tighe Woods, national housing expediter, on the grounds that the housing leader was "more concerned with advocating the principles and philosophies of socialized housing than in advancing the growth and development of privately-owned homes for which he is actually employed."

Tilden, the new association president, predicted that "upward of 75,000 homes will be constructed in Southern California during the next 12 months."

Association Territory Expanded in South Texas

The Corpus Christi, Texas, Home Builders Association was recently reorganized and now includes a large territory in South Texas, as far south as Brownsville, association officials have announced. The new executive officer of the group, John W. Daly, formerly an associate of Grover A. Godfrey, executive vice president of the Dallas Home Builders Association, has offices at 5115 Hiway 9, Corpus Christi.

One of the services of the enlarged organization will be to assist manufacturers in finding outlets for their new products. The staff is currently compiling a directory that will list all branches of the construction industry in South Texas. This service was prompted by a recent survey of construction methods which revealed that many new products used in the East and Middle West do not yet have distribution in the rapidly expanding Gulf Coast area.

Cortright's Column



FRANK W. CORTRIGHT, Executive
Vice President, National Association of
Home Builders of the United States

Magazines like men are too seldom honored during their lifetime.

It is a common fault that all of us take for granted services rendered for a modest charge without properly evaluating the full worth of such services.

For example, have you ever considered what this publication has done for your business as a builder over the last twenty-five years? Do you realize that the *American Builder* has served the home building industry well in many ways beyond publishing a fine magazine?

Very frankly, I did not fully realize this until a recent luncheon with Publisher Sam Dunn, Bob Morris and Ed Gavin. At that time they described a number of campaigns they have carried over the years, the political influence they have brought to bear, and the importance of the things which have been accomplished.

It was in the fall of 1933 that the *American Builder* took the initiative to force recognition of the importance of the private home building industry on the Administration. This was accomplished by a skillfully conducted public relations program, directed to newspapers all over the country, that thoroughly proved there could be no end to the depression until new home building was resumed on a national scale.

In February 1934, the *American Builder* devoted an entire issue to this subject and copies were sent to all members of Congress, to governors of all the States, and to the mayors of all the more important cities, as well as to some 3000 newspapers. This must have had a great deal of bearing on the subsequent planning of the Administration because legislation was shortly introduced in Congress known as the National Housing Act and from this developed the Federal Housing Administration and the plan for insured mortgages.

In 1937 when the hue and cry about high prices led to the "recession" of 1938, it was the *American Builder* who invented the slogan "More House for the Money" and by widely publicizing actual home building costs plus the great improvements developed over the previous eight years in equipment and construction techniques contributed mightily to stop the recession, insofar as home building was concerned. As a result, 1938 proved to be a better building year than 1937 and the best building year since 1930.

More recently, in February, 1942, to be exact, it was the *American Builder* that enthusiastically agreed that all the builders of the country should be organized and firmly welded together into a great national association. During the intervening eight years, they have never wavered in this determination, nor failed to cooperate with us wholeheartedly in reaching this objective. The remarkable growth of the National Association of Home Builders, unmatched and unprecedented in the history of American trade associations, owes much to the unflinching support of the *American Builder*.

It can be said, of course, that the benefits have been mutual, but it is still true that in the interest of building a strongly organized industry, the *American Builder* has maintained an unselfish attitude. We refer specifically to their attitude towards our several publications and particularly to the *American Builder's* support of our Annual Exposition and Convention each year in Chicago.

Instead of resisting the establishment of this annual event as competition for the manufacturers' advertising and promotion dollar, from the outset the *American Builder* has urged its advertisers to purchase exhibit space.

In part, because of this support, the builders of the nation now have an opportunity once a year to see and learn every new thing related to home building. This million dollar display of new building materials, a convention program comprised of more than one hundred of the country's out-

(Continued on page 162)

TAKE IT FROM These Successful Apartment Builders!

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Chicago, Illinois



AMERICAN BUILDER

E D I T O R I A L

Early Buying Urged

BY mid-December every credible statistical study indicated that the number of housing unit starts in 1949 would establish an all-time high. Indications were that the previous record of 937,000 starts in 1925 would be surpassed by at least 20,000. This record performance last year is especially remarkable because starts during the first three months were relatively negligible. The fact that the record was made possible because starts accelerated instead of declining during the early autumn months is significant in predicting activity in 1950.

Snow and freezing weather in the north during November forced postponement of thousands of starts of custom-built houses. All of these plus an accumulation of new projected starts during the winter months can be expected to get under way as soon as winter breaks. The same can be said for the projects of operative builders. Barring some unpredicted and unexpected economic change, home building activity this year will begin early and in heavy volume. After that there should be a more even distribution throughout the remainder of the year.

Based on a continuing and still growing demand for custom-built homes, and only a slight decline in the activities of operative builders in some sections, *American Builder* predicts about 900,000 private housing starts for 1950. This is approximately a six per cent decline below the record figure (assumed at this time to be 960,000) established in 1949. Added to this will be a portion of the 135,000 units authorized by the Housing Act of 1949. It is not to be expected that the ponderous government machinery necessary to implement the public housing program at its allowable maximum can be assembled in 1950. The evidence indicates, however, that at least 50,000 public housing units will get under way this year. Thus, the total of all housing starts will be about 950,000.

This volume cannot be reached, however, without continuing development of advanced merchandising methods that began to manifest themselves early in 1949. Sound merchandising programs, including public relations, well integrated at all levels from the manufacturer to the retail dealer and the builder, are essential for fulfillment of the prediction. Nor will the industry build to its capacity if there is hand-to-mouth buying of raw materials by manufacturers and of finished building products by wholesalers and retailers. There should be well rounded inventories in the manufacturers' warehouses and in the wholesale and retail yards by mid-February to permit builders to build and sell what the market appears to be able to take this year. There is no reason to expect costs to decline. There is some reason to expect mild increases. There is every reason to buy full inventories early.

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What's Ahead For Building?

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Here's What



RAYMOND M. FOLEY, Administrator,
Housing and Home Finance Agency

"Home building forecasts announced thus far see a moderate decline in home building volume for 1950 compared to 1949. The significant thing about any forecast, however, is the 'if's.' A similar decline was forecast for the past year. I said then that if we produced more rental and lower-cost units such a decline could be avoided. The industry did just that and home building rose to record levels.

"I say again for 1950 that a decline can be avoided, and an increase realized, if—, The principal 'if's' that I now see are these: (1) If we occupy a million or more homes a year as a

basic and minimum production rather than an exceptional level of production, and plan accordingly. (2) If we intensify our attack on costs, develop new means and methods to meet the needs of a lower price market, such as cooperative financing, yield insurance, prefabrication, large-scale site efficiencies, and new materials, and constantly seek to increase the efficiency and productivity of management and labor. (3) If we gear more production to middle-income needs, through lower-cost housing, through rental housing at lower rents than we have been getting, through more housing for larger families, through aggressive efforts in the neglected market of minority housing. (4) If we increase the teamwork between management, finance, labor and government at all levels."

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HENRY A. BUBB, President,
United States Savings and Loan League

"Another 900,000 to 925,000 year in new residential units is probable from the points of view of: (1) financing available; (2) sustained incomes of people who represent the market for new homes; and (3) personal savings sufficient to provide down payments for conventional loans. The only possibility of any notable slowdown in home construction in the year ahead would be for vacancies to begin to show up in a much more significant number of localities than now seem likely.

"There is the prospect of a continuing production of small, unpretentious homes, which have been the backbone of the

record home building activity of 1949. Savings and loan associations, by and large, make the small builder their principal outlet for home construction funds. Keeping these small builders in operation will be one of their contributions to a sustained level of home building in the new year.

"The fact should be frankly faced that some localities are already approaching the saturation point in new residential units. Many more will be in that stage by next summer. The 1950 home building activity is likely to be concentrated in fewer areas than it was the past two years, for this reason.

"Continuing flow of savings at the post-war rate of \$3 billion to \$4 billion a year into savings associations will give them all the funds they will need to do their part of the nation's home construction financing."

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R. O. DEMING, Jr., President,
Mortgage Bankers Association of America

"The building of single homes for 1950 will not equal the record number of starts made in 1949, but will not be off more than 10 per cent. Continued easy money policy, with fairly well-stabilized interest rates at present levels, will certainly be maintained throughout the year, assuring availability of adequate funds for sound financing for all, irrespective of race, creed or color of the borrower. Federal insuring or guaranteeing regulations may possibly be eased

slightly.

"Look for some scarcity in some lines of building materials and supplies, due to increased activity from public housing construction and military housing under the Wherry bill, with a possible slight increase in prices of materials during the first six months of the year.

"Single house construction will be in smaller units and I believe that an active buyer's market will be found throughout the year for homes costing \$10,000 and under."

"Unemployment should not increase beyond present levels and this knowledge, coupled with fear of inflation, will hasten many buyers into purchasing homes in 1950."

★ CONSENSUS

Little, if any, decline from the record-breaking home building pace of the past two years is anticipated for 1950. Although no great change is expected in costs, there is a feeling that they may be somewhat higher, if the requirements of the public housing program create a competitive market for materials and labor. The opinion seems to prevail that any lags which may occur where housing has reached the "saturation point" will be compensated by the increased emphasis on the construction of low-cost housing within the financial reach of income groups which, until recently, have been unable to become home owners.

★ GOVERNMENT

Federal housing leaders state that slightly more than 100,000 dwelling units will be built in 1950 under the provisions of the Public Housing Act of 1949, and that these units will in no way compete with any possible private market nor strain our present home building potential. This is contrary to the opinions of many persons in private industry who feel that government entry into the building field will cause prices to spiral. Other operations authorized under the provisions of the housing act include slum clearance, farm housing, and research; and considerable progress in these is expected during the new year. Military housing is slated for acceleration throughout the country.

★ FINANCE

Another year of ample mortgage money, readily accessible, is forecast by officials in the home financing industry. The outlook is for fairly well-stabilized interest rates at present levels, with possibly some relaxation of Federal insurance and guarantee regulations. The G. I. home market is expected to expand, since banks and large insurance companies are making loans in greater numbers than heretofore. Savings and loan associations will continue their policy of concentration on the financing of low-cost homes and making the small builder their principal outlet for construction money. As for real estate prices, no appreciable change is expected during the year.

The Leaders Say About 1950



**RODNEY M. LOCKWOOD, President,
National Association of Home Builders**

"All signs indicate that 1950 will be as big a building year as 1949. It may even be the all-time high-year for home building. The pressure on building costs will be upward. This seems almost inescapable. In fact, there is excellent chance that an inflationary spiral may develop in home building costs for which the Federal government's socialized public housing program will be completely responsible.

"The near-precarious balance between high-volume demand and the supply of labor and materials will continue into next year, since there is every indication that the fast building pace

will continue. We could survive this if it were not for the new element that will be added in the spring—the dumping of \$1.5 billion worth of public housing into this already tight market.

"This building will be on public contracts—meaning high labor scales and large orders for materials. This condition is bound to precipitate competitive bidding for available supplies—and construction costs will go up.

"Thus, outlook is for an extremely active market, but, unfortunately, it looks like a higher-priced market. This condition, brought about directly by government activity, is precisely what the government says it doesn't want to occur.

"It has the opportunity to avoid it by postponing the socialized housing program. Right here I'll make another prediction—I won't have the courage to do it."

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**JAMES M. ASHLEY, President,
The Producers Council, Inc.**

"1950 looks like another strong year in housing. A moderate drop in the number of private housing starts will be offset in part by an increase in public housing construction, with the result that the number of new non-form homes should hold up to 90 per cent or more of the record number started in 1949.

No significant change in the cost of building homes is anticipated in 1950, although the trend toward low-cost homes is expected to continue in the new year.

"With the downward trend in the number of new family formations, which in the past have provided the main stimulus for new housing, the building industry in 1950 will need to turn its attention to efforts designed to sell the public on the greater general desirability of today's new homes.

"To maintain the home building rate of the last few years, more new homes will have to be built for replacement demand than ever before, because the net number of new families alone will not provide sufficient demand and much of the demand resulting from war-time dislocations is reaching a state where it can be deferred, as housing shortages are steadily being eliminated in one area after another."

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**B. A. COLGAN, Jr., Executive Vice President,
National Lumber Manufacturers Association**

"There is good reason to believe that during 1950 there will be a consistently high level of demand for construction lumber. The continuing record number of starts of new housing in the last quarter of 1949 indicates that while there may be some decline next year in the number of private residential starts, housing starts will still be considerable;

with the unfilled need for hospitals, public schools and new commercial non-residential installations and additions just about offsetting. I believe, what slight private residential decline there may be. Public housing programs will nearly double the spending for this type of construction.



**C. B. SWEET, President,
National Retail Lumber Dealers Assn.**

"Each time that I am requested to express my views on the outlook for home building during the coming year, I am more convinced that I know very little about forecasting. Last year I was positive that we would not and could not equal the total of homes built in 1948, but in spite of a bad start at the beginning of 1949 it now looks as though we will equal or might even better the 1948 record. At present I am going to take a more optimistic attitude and say that if the government will leave industry alone, we will deliver to the American people well over a million homes in 1950. Like a 'hot' football team we're after an unbroken string of wins."

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MATERIALS

The consensus among manufacturers of building materials is that their problem in 1950 will not be, as it was in the early post-war years and to a certain extent in 1949, one of straining production to meet demand, but rather of devising selling and advertising campaigns to meet the challenge of a competitive market. No radical change in prices of materials is anticipated; if there is a decline it is expected to be slight. Practically all manufacturers seem agreed that the 1950 market, with record or near record private building augmented by the public housing program, will at least equal the excellent one in 1949. Production facilities, in many instances, have been enlarged.

★

DEALERS

A general note of optimism is expressed by retail lumber and building material dealers in their analyses of prospects for the new year, although many express a fear, in varying degrees, that the government construction program will be especially harmful to the distribution branch of the industry. As far as the outlook for new home building is concerned, dealers in various sections of the country feel that the volume will be comparable to 1949, with perhaps a slight decline in some areas where production has overtaken demand. Reasons given for the sustained high volume include the continued offering of sound values in houses under \$10,000 and an industry-wide effort to improve its product.

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BUILDERS

Builders in making their 1950 plans are convinced that home buyers will still be in the market in virtually the same record numbers as in 1948 and 1949. Behind this belief are the facts: that the reserve of potential purchasers is still reckoned in the millions; realization by the public that today's prices are not excessive—in fact, offer good values; that there is very little likelihood of a substantial price-drop in the near future; financial arrangements which make home ownership possible for additional lower-income groups; and an increasingly attractive public relations program which constantly points out the financial, civic and social advantages of owning one's home.



ELAINE S. SMITH, President,
Universal Atlas Cement Co.

"It is our expectation that total new construction in 1950 will be slightly less than in 1949. We expect private construction, as a whole, to reflect a moderate loss which will, in part, be offset by an increase in public construction. So far as privately-owned home building and light construction are concerned, we believe that in 1950 they will follow, generally, the private construction pattern and that the total might be somewhat less than in 1949, which probably will be a record year. We believe the trend in residential building is toward low-cost homes and, if this trend continues, the volume of privately-owned home building and light construction could well equal last year's. As for public housing, the volume will probably approximate that of 1949. The Housing Act of 1949 should lead impetus to construction in this field."

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O. HARRY SCHRADER, Jr., Managing Director,
Douglas Fir Plywood Association

"A drastic post-war price adjustment in plywood, already effected, and greatly expanded industry sales promotion are to combine with high level construction activity to maintain Douglas fir plywood use at or about record proportions throughout 1950. The year just ended saw an all-time high production of about 1,900,000,000 square feet; various harbiners and indices accepted as guide-posts forecast that demand for the 12 months now starting will about equal that figure. Plywood now being a basic commodity both in construction and industry, is, of course, affected by general conditions. Significant, therefore, are the business forecasts pointing to residential housing still less than adequate for the population and its annual increment of families, and continued expansion of commercial and industrial building."

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E. W. DONAHUE, President,
National Woodwork Manufacturers Assn.

"The F.W. Dodge Corp. estimates a decline in residential building for 1950 of about 3 per cent below 1949. That still leaves a large market which, the U.S. Department of Commerce estimates at \$50,000 units. Since the demand for stock woodwork usually parallels the residential building curve, the outlook appears favorable for a large but not a record-breaking market for stock pine doors, windows, sash and screens in 1950. General opinion throughout the residential building industry seems to be that the momentum of new home construction during the latter half of 1949 will carry over into the first half of 1950; that there will probably be some decline by the middle of the year, which will be partially offset by increased activity in the latter months. Prices of stock woodwork are not expected to decline much if any during 1950."

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ALLEN HARRIS, Jr., President,
National Oak Flooring Manufacturers' Assn.

"Although the favorable 1950 home building outlook indicates that demand for oak flooring will remain near record levels, flooring manufacturers anticipate no difficulty in producing sufficient supplies. Industry capacity, expanded considerably since prewar and immediate post-war days, is adequate to provide all the oak flooring required, unless home construction reaches an unexpectedly high total.

"This has been demonstrated during 1949. Despite the surprisingly heavy volume of housing starts, there is no record of any completions delayed because of lack of oak flooring.

"If the optimistic forecasts for home construction in 1950 are borne out, the hardwood flooring industry should enjoy one of the best years in history. It should compare favorably with 1949, which gives every promise of being the second best on record, next to the all-time peak year of 1948."



GWILTM A. PRICE, President,
Westinghouse Electric Corp.

"More and more, electrical living is becoming an essential ingredient in the American way of life. Recent statistics, for example, reveal an increase of 5,750,000 wired homes in the United States in the past four years, and an increase of 31 per cent in the use of electrical energy by the average home consumer during that same period. Estimates now are that there will be some \$18 billion in new construction in 1950, approximately the same as for 1949. Electrical building supplies and equipment will amount for some \$750 million of this total. There have been indications that residential building in 1950, though continuing at a high level, will not reach the post-war peak of 1949. However, this branch of the industry still is expected to require somewhat more electrical equipment than it ever has before."

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ROBERT P. GERHOLD, President,
National Association of Real Estate Boards

"Except for a few cities where building has caught up with the demand, the market for new homes in 1950 will be as strong as at any time since the war—with little or no change in prices. As long as the trend in wages is up, there will be no sharp or big drop in real estate prices. Frankly, I don't believe the average reduction will exceed 5 per cent. In the case of new homes, a major part will come from 'shaving' of the subcontractor's and builder's profit. There's every indication that the supply of mortgage money will be ample. The market for G.I. homes, both existing and new, will be greatly stimulated because large insurance companies and banks are again making 4 per cent G.I. loans. Finally, I predict that 1950 will be another excellent year for the real estate and building industry. Prices, for the first time since the war, will tend to stabilize by mid-year."

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JOSEPH F. BATTLLEY, President,
National Paint, Varnish and Lacquer Assn.

"I have complete confidence that 1950 will be another banner year for business in general. The present high level of national income will continue and this alone assures ready consumption of marketable goods. Construction and remodeling will maintain the accelerated pace of 1949. Sales of the products of the paint industry will for the fourth consecutive year be above the billion dollar bracket. Industrial finishes will play an ever-increasing part in the merchandising plans of manufacturers while paints for household and maintenance purposes will reach new heights. Despite the optimistic outlook for volume and dollar sales, manufacturers must continue extensive selling and advertising programs to reach the vast potential markets which are ever increasing in our great country."

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M. C. FAIRFIELD, President,
Insulating Board Institute

"Reliable forecasts of a continuation into 1950 of home building at a near-record pace indicate that dealers may look forward to a heavy volume of insulating board sales. The upswing in building which occurred during the latter half of 1949 was accompanied by a corresponding increase in demand for insulating board products. The industry, with its increased production capacity, was prepared to meet the situation.

"The industry looks forward to an even greater use of insulating board sheathing by speculative builders. With the housing situation somewhat less critical, home buyers are becoming more demanding in their requirements. By offering homes that are insulated in sidewalls as well as the roof area, builders have a potent selling point. A growing appreciation of the value of insulated farm buildings has stimulated sales in that field."



**C. C. WALKER, Vice President,
General Electric Co.**

"With government and other agencies all predicting another boom year for construction in 1950, with estimates of a total value of 1944 billions for this market, the business outlook for electrical wiring materials must continue to be optimistic. Business in the first half of 1950, particularly, should be good because losses caused by the steel strike during the fourth quarter of 1949 will undoubtedly be followed by a definite rise above what would otherwise be expected during this period. Although construction of new industrial plants may taper downward for 1950, we expect to see private construction, especially residential, remain at high levels. This factor, coupled with the expected increase in the construction of hospitals and schools, gives added impetus to General Electric's Construction Materials Department's plans for no letdown in the production of wiring materials."

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**CLIFFORD F. FAVROT, President,
Asbestos Cement Products Association**

"A happy combination of conditions, including greater availability, improved styling and a favorable market, points to a good year for asbestos-cement products in 1950. Asbestos fiber, in short supply for a part of 1949 because of labor difficulties at the mines, again is coming in in needed quantities and no recurrence of the shortage is anticipated. The demand for asbestos-cement siding shingles remains strong. The introduction of new high styling and new colors has increased public acceptance for both new construction and remodeling. Increased use of asbestos-cement roofing shingles can be anticipated because builders are becoming more exacting in their specifications. This means a heavier demand for materials, such as asbestos shingles, which have strong selling points and can be featured in offering new homes to the public."

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**HART ANDERSON, President,
Prefabricated Home Manufacturers' Institute**

"The coming year will establish new records in the number of homes erected from factory-built panels. The high volume of sales in the past six months is evidence of the better housing values that have been provided and the trend gives an unmistakable promise of greatly increased sales throughout 1950. During the coming year home buyers will be more discriminating and home builders will be more alert to the application of economies which they will discover through the use of prefabricated panels. Mortgage lenders, FHA officials, home builders and buyers, too, are learning from experience that there is a real distinction between the glowing promises of magic homes of new and untested materials and the accurate factory-made building units which progressive builders throughout the country are using to speed their operations and minimize their worries."

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**C. A. THOMPSON, Dealer,
Champaign, Ill.**

"Interest in home building is active in this area, particularly in the \$6,000 to \$8,000 class. It is questionable if the volume in 1950 will equal the two previous years; however, it should be satisfactory for a good building year. The above view I qualify in five ways: (1) Continuance of the present type of FHA financing. (2) Liberalization of the FHA Economy House Program to permit a top loan of \$7,000 instead of \$6,000. (3) Ample private and/or government funds for FHA financing. (4) Awareness of the Federal government that a citizen can best be housed by owning a home built under FHA financing. (5) The building industry's realizing that they must give a well-designed, well-planned house of quality materials for less. Research will do much to help builders achieve this goal."



**HARRY E. HUGGINS, President,
Pittsburgh Plate Glass Co.**

"Improvements in production facilities have been geared to meet the annually increasing demand for window and plate glass products in home building. Whether supply will always meet demand simultaneously at consumer level is highly problematical. During 1949 the consumer demand for window glass, for example, started and remained high throughout the year. However, at the dealer-distributor level inventories were lowered sharply during the first six months. This made it necessary to curtail drastically plant production. Then, as consumer demand increased instead of declining, dealer-distributors had to replenish their depleted inventories in late summer with a subsequent abnormal demand on factory production. Along with consumer demand for more and more window glass is a growing call for plate glass products for use in the home."



**W. B. HENDERSON, President,
Lumbermen's Association of Texas**

"Home building activity in the Southwest required an active pace in the fourth quarter of 1949. The first half of 1950 appears likely to hold the pace. As in other areas, the principal demand for housing is in the price range below \$10,000 per unit. Houses now being sold in the \$6,000 to \$10,000 bracket are generally considered a sound value by purchasers and financing agencies. This condition makes an active market. If general business conditions remain satisfactory, enough demand currently exists to support a good volume of building in forthcoming months."

"Some shortages in key materials were again felt during the fourth quarter of 1949, notably in gypsum wallboard and cement. Construction costs are fractionally higher now than they were six months ago."



**FRANKLYN E. HAWKINS, Adv. Manager,
Libbey-Owens-Ford Glass Co.**

"The all-time record for glass production established in 1949 is expected to be broken in 1950. Changes have been made in plant facilities to increase production so as to equal demand. The manufacture of insulating glass will again be greater than 1949, which was far above 1948. Distributors throughout the United States now warehouse a stock of insulating glass in standard sizes for immediate delivery to customers. The demand for these units continues to grow through their use in large office buildings, hospitals, schools, newspaper plants and tens of thousands of houses privately as well as speculatively built. The heavy demand for window glass is expected to keep production at full capacity. With the construction of houses, institutions and commercial buildings expected to continue on a high level, it is anticipated that 1950 will be another good year in glass manufacturing."



**THOMAS P. COGAN, First Vice President,
National Association of Home Builders**

"The outlook for the home builder in the South Florida area is excellent. We have enjoyed a period of peak building activity since the war and the continued growth of the area maintains an active market. Florida, with home-stead exemption up to \$5,000 on owner-occupied homes, also weighs the scale heavily in favor of ownership instead of rental, and there is a decided swing from apartments to home ownership. Financing problems show signs of easing and with the new implement to the 501 veteran loan the year 1950 promises to exceed all others in number of units started. The public is now aware that building costs might go up instead of down. In addition to demand for lower-cost homes, the conservative buyer who has been waiting for lower prices is now in the market and we look for good demand in all price ranges."



**WILLIAM P. ATKINSON, 2nd Vice President,
National Association of Home Builders**

"I believe that the tremendous volume of homes produced by our industry in 1949 has been due largely to a widespread shift to lower-priced homes. With continued favorable financing in 1950, I believe the efforts of the home building industry in the low-cost field will be accelerated. Every indication is that we will, for the third consecutive year, build approximately one million homes. The fact that 1950 is a political year, that \$2.8 billion in insurance refunds will be paid to veterans, and that we will experience a record high rate of peace-time government expenditures, augurs well for a high level of general economic activity during 1950. I expect very little if any decrease in the cost of building materials. I am fearful, with the recently enacted socialized public housing program getting under way this year, that we will again be faced with severe shortages of materials."

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**ALAN E. BROCKENBAKE, Home Builder,
Salt Lake City, Utah**

"It is my belief that 1950 will produce, approximately, the same amount of construction as 1949, provided construction credit is available for home building. My belief is based on these factors: (1) That only about one-third of the possible G.I. purchasers have bought homes since the end of the war. (2) That the population of the United States has increased by about 17 million since 1940, and only about 4 million homes have been built in this period of time. (3) The number of families requiring housing is increasing even faster than the population. I believe that the increased demand for housing in the last few months is due to the public's realization that the price of housing was not going down further, that builders are building in the lowest-priced brackets and that homes are improving in quality and design."

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**ALBERT BALCH, Home Builder,
Benton, Wash.**

"1950 will be a big year in all types of home construction; sales will be good because the need is great. More new families are appearing on the market every day. The people realize that prices cannot go down very much when the supply of money and the public debt continues to go up. They become reconciled to the fact that prices of homes cannot be materially reduced when freight rates, raw materials and all types of building labor do not go down, but rather continue to inch up every year. Psychologically, the people feel, in a period of uncertain money values the consequence of which is now becoming more evident in our section of the world, that it is better to own a home and be in a position to control your own rentals than to have both the rental price and the location subject to change."

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**A. O. ALDRICH, President,
Chicago Metropolitan Home Builders Assn.**

"Viewing 1950, it is quite evident that most builders in the Chicago area are optimistic, and many believe that it will be a banner year. Plans for a large volume of one- to four-family dwellings are planned, or have already been started. An increasing number of large apartment buildings will account for many thousands of rental units, a large percentage of which will be 608 projects."

"However, if quantity production is to be maintained through the coming year, mortgage financing must be easily obtainable. This means that early in the year Congress must provide the facilities to accomplish this result."

"It is important that legislation be provided to stabilize the mortgage loan market for a longer period of time so projects may be planned and completed while the act is still in force."



**CLYDE A. FULTON, Vice President,
National Retail Lumber Dealers Assn.**

"Based on factors now evident, I look toward 1950 with much optimism. We have passed through a period of disturbed labor conditions in industry, which were beginning to make their appearance a year ago, and have apparently leveled off into a smoother phase of operation for the coming year. Financing for small homes and farm buildings will be available and lumber stocks will be more attractive both in price and quality than they were a year ago. With the need that still exists in every community for housing, these factors should stimulate action on the part of many prospects who have been waiting for 'the right time to build.'"

"Our farm areas have had a prosperous year and no group is more progressive in the improvement of their homes and production buildings than the American farmer. This augurs well for the rural building market of 1950."

**CHARLES M. HINES, Dealer,
Chicago, Ill.**



"The most encouraging fact in our whole national picture is the strong, compelling desire on the part of the American public for a home of their own. Despite efforts to soften and dissipate the truly American tradition that a man should provide his own home for his whole family, we find in the Chicago area that the big interest is in the single family residence, even among those of more modest means. Irrefutable evidence of this interest was unfolded early this fall during the month-long Chicago Home and Home Furnishing Festival when more than 1,200,000 people inspected the 79 demonstration homes on display. Sales of new homes are moving steadily in the Chicago area, and we look for a continuation of home building and home buying in 1950 so long as the whole industry perseveres in its efforts to improve design and construction."

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**NORMAN P. MASON, Dealer,
North Chatham, Mass.**

"So far as northern New England is concerned, the retail lumber industry looks for another year in home building in 1950 much like 1949, with lots of building and lots of active competition for the business. Employment should be good, with the textile union's decision not to seek wage increases. Ordinary folk here seem aware of the fact that building costs are reasonable. An ever-growing number of houses are built with owners and relatives donating much of the labor. It almost seems in some towns that there is more building material consumed week ends than during the week. Many a bride has learned to swing a hammer instead of a rolling pin. People here still have income enough to buy what they want. Drive down any street and the count of television antennas proves it. They still want homes too and our mortgage-loan institutions are still competing for loans."

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**EMANUEL M. SPIEGEL, President,
New Jersey Home Builders Association**

"It is my opinion that residential building for the year 1950 will continue at a high rate, particularly in home prices under \$10,000. Numerous large-scale projects have been planned with some presently under way, so that by spring there will be offered to the public many homes at prices considerably under \$10,000, some with carrying charges around \$50 per month. This is reaching the average income group for industrial workers in this state. It is expected that sales will run high in this category. Financing aids legislated by Congress, which came too late in 1949 to prove immediately effective, will be responsible to a great extent for the great activity next spring in this type of construction. With few exceptions, the rental housing market in the higher rental groups under Section 608 has almost reached the saturation point."

PLYWOOD TODAY

A re-appraisal of the material which rose rapidly from the role of a building specialty to that of a building commodity. This editorial section reviews its properties, uses and potentialities in home building and light construction



STANDING. growing timber is the raw material from which plywood is made. These Douglas fir trees are on the Pacific coast where there are now 54 plants producing Douglas fir plywood in a variety of standard grades and sizes

WHEN plywood was tagged as the "material of tomorrow" in the 1930's, it was considered a building specialty. In the short period since that time plywood has been reared from the relative obscurity of a building specialty to the role of a basic building commodity. It is now established as the material of today as well as tomorrow. The nation's builders, architects, lumber dealers, home owners as well as the manufacturers of adhesives and plywood, all have played a part in preparing the "Cinderella" material—plywood—for valuable service based upon its inherent attributes.

It has been said and written by good authorities that plywood will do more different building jobs than any other material. On subsequent pages, plywood's uses in light

construction are related briefly in a word-picture presentation. Objectively, the material deals with Douglas fir plywood predominantly, because fir plywood is the "construction" plywood. The value of other plywoods in the light construction industry, however, is not being underestimated. Pine plywood has its specific uses in door panels, cabinet work and millwork. The numerous species of hardwood plywoods, discussed later on these pages, are gaining favor with builders and the public for fine paneling, built-in furniture and for decoration.

Douglas fir plywood and other panels produced by the fir plywood industry along the Pacific coast, however, account for more than two thirds of the nation's total supply of panels and represent more

than 90 per cent of all plywood used in light construction. Fir plywood is the utility construction plywood used for the inside and outside of buildings and for structural parts such as sheathing and roof decking.

For the past two or three months, the manufacturers of fir plywood have been emphasizing that "plywood has made its postwar price adjustment." They point to the fact that manufacturers slashed price levels 35 to 40 per cent from the postwar highs of a year ago. Builders who consistently use plywood are well aware that plywood prices nosed down sharply. Contrary to the principle that lower prices stimulate business, plywood demand temporarily dried up as prices fell.

Builders are equally aware that during the past 90 days, the downturn in prices righted and manufac-

In This Section

PLYWOOD TODAY

For Subflooring, Sheathing and Roof Decking

For Exteriors

For Interiors

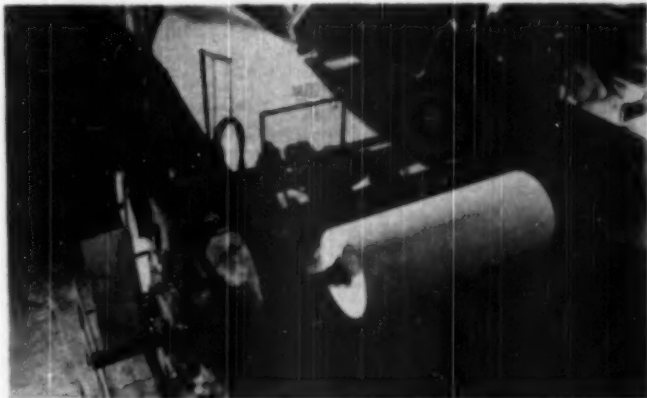
For Concrete Forms

In Prefabricated Housing

Designing with Plywood

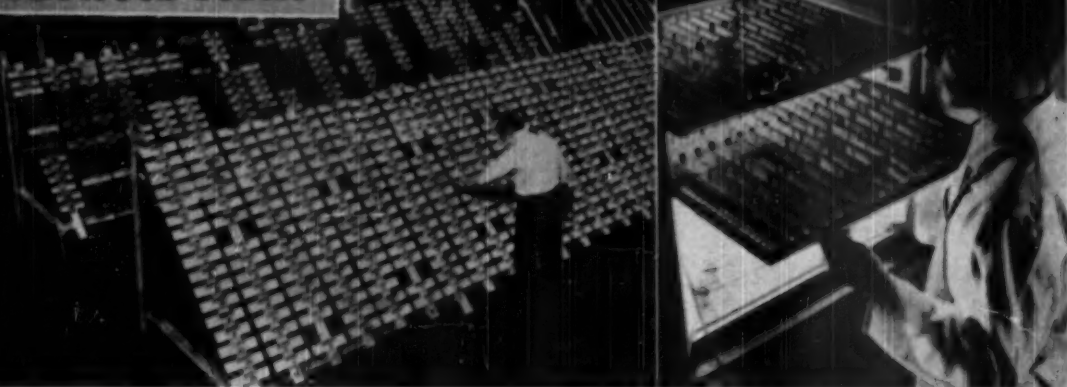
Plywood on the Farm

Source material, photographs and drawings on Douglas fir plywood in this section were obtained from the Douglas Fir Plywood Association. Source material on hardwoods was supplied by the Georgia Pacific Plywood and Lumber Co. and the U. S. Plywood Corp.



HUGE lathe in plywood factory "unwinds" a thin ribbon of wood "veneer" from log

PLYWOOD TODAY



EXPOSURE fences are used, along with extensive laboratory studies to test glue line performance on exterior plywood

turers individually have brought out new price lists with higher figures for the various grades and additional adjustments on specific items. The long-term outlook for plywood prices, like the prices of other products, must be related to costs. Labor and logs account for more than 80 per cent of plywood manufacturing costs. Labor is unchanged or up slightly from a year ago. Logs dropped in price, after plywood, but are rebounding.

The basic justification for the manufacture of plywood is to improve on wood. Plywood improves on wood by making possible larger panels that are stronger, more rigid, split-proof, puncture proof, light, and dimensionally stable. Plywood is modern because it is a structural and a decorative material in one.

Structural capabilities and durability of the product depend on the

plies of wood throughout the panels plus the strength and permanence of adhesives that bond the plies together into an integral panel. Plywood's usefulness as a decorative material is related directly to efficient utilization of the raw material with some variations offered in the new overlays.

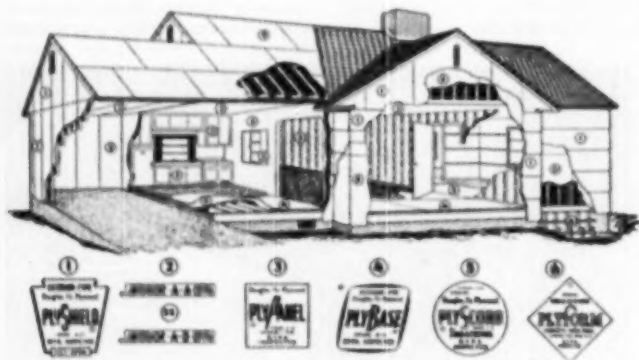
Fir plywood is of better quality now because performance requirements are more severe than at any time in history. Integrity of the product is assured through industry inspection, testing and grade marking of panels for positive identification. Performance standards for the two types of fir plywood—exterior and interior—have been tightened consistently during the last two decades. The U.S. Commercial Standard CS45-48, established through the Department of Commerce and in effect now for

more than a year, requires that the bond for exterior plywood must prove far stronger than the wood itself even after repeated boiling and drying. Exposure fences test glue line performance to corroborate laboratory findings.

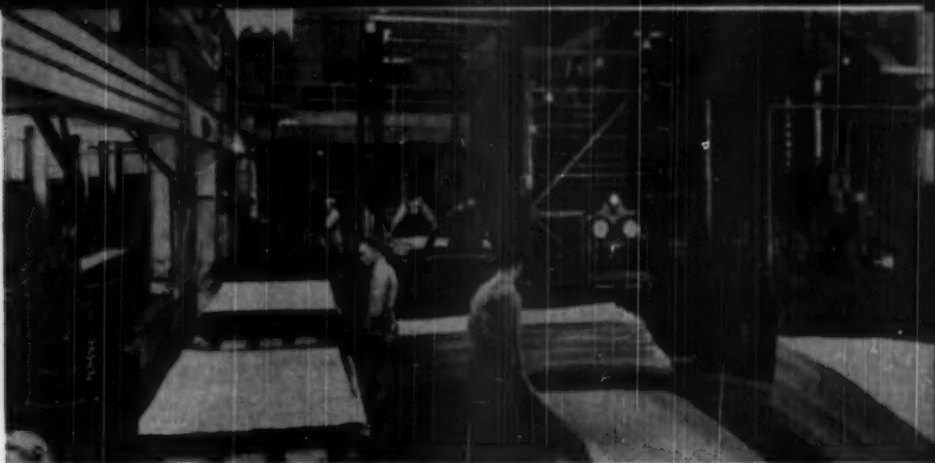
The glue lines of interior type plywood, as well, including the sheathing grade, now are several times more durable than prewar. Interior type plywood, however, does not have the waterproof bond which is in the exterior.

Three factors dictate the appearance grades of fir plywood. They are: (1) customer wants; (2) economical panels for a given use; (3) full utilization of the raw material. As a result, more than half of the volume is in "one-side" panels with highest appearance wood (veneer) on the one surface, and with limited defects which do not affect serviceability in the panel on the back. Fifteen to 20 per cent is in panels intended for uses where both sides will be viewed. The balance is in rough structural panels for sheathing, subflooring, roof decking and backing or in panels produced expressly for constructing re-usable concrete forms. More than 75 per cent of the plywood is in sheets 4 x 8 feet, but other sizes both smaller and larger are standard items to meet building and industrial requirements.

The fir plywood industry has grown rapidly in both size and stature just as the material it produces has forged ahead into the ranks of the preferred building products. Now, 54 factories, operated by 48 separate firms, produce standard grades and sizes. Production has been boosted from 650,000,000 square feet in 1938 to about 1,900,000,000 feet in 1949, despite the fact that output fell drastically during war years due to various



THIS cutaway view of a house shows where the various grades of Douglas fir plywood are used in building. For ready identification, panels are grade-marked before leaving the factory. The industry grade trademarks shown assure the user that the panels are genuine Douglas fir plywood manufactured in strict accordance with U. S. Commercial Standard CS45-48. It is important to note that the "EXT. D.F.P.A." edgemark (letters in the Plyshield mark) identifies exterior type plywood with waterproof bond



THIS is the "heart" of a modern Douglas fir plywood factory showing the assembling and pressing of thin sheets of wood into panels. The hot press, which acts adhesive into a permanent bond, is at right rear

restrictions. The big expansion of the industry came during the 1938-1941 and 1946-1949 periods. Postwar additions are now about complete.

Probably the most publicized panel material at the present time is the result of the "wedding" of plastics and plywood, the union resulting in plastic-faced plywood. Its biggest volume construction use to date is for long-lasting concrete forms to attain extremely smooth surfaces. Fir plywood manufacturers now produce hardwood-faced plywood also. Finally, other softwood plywoods, notably hemlock, redwood, spruce and cedar, are now being produced in appreciable volume under rigid performance standards. Just issued is the new U.S. Commercial Standard CS122-49, under which these panels are being produced by the fir plywood industry.

Douglas fir plywood is available to builders everywhere. The firms which supply builders with other conventional building materials also are supply sources for plywood. War shortages and the government allocation of plywood to meet war and postwar needs disrupted distribution. The situation was further aggravated by a backwash of the war-created shortages.

The recent late fall upsurge of plywood demand was so strong that it could not be met at once even though productive capacity is far greater than ever before. But at year's end, that situation had resolved itself. Plywood is available through the nation's retail lumber dealers backed up by warehouse stocks in key trading centers. More and more of the all-purpose exterior plywood with waterproof bond is available to meet outdoor uses.

Hardwood plywoods, which antedate fir plywoods by many years, are

gaining greater favor with builders and home owners in America's thriving building program.

The beautiful finishes of these "exotic" woods, with highly figured walnuts, maples, oriental wood and prima vera predominating, are today increasingly in demand by home owners seeking the exclusive touch in interiors and have found new popularity with furniture manufacturers and designers. Makers of household and office furniture, radio, television and phonograph cabinets favor mahogany, walnut, oak and gum. Birch, walnut and mahogany are attracting the attention of designers of architectural paneling and manufacturers of flush doors featured in houses and institutions. A table of the more popular hardwoods used in plywoods, including some of their characteristics, chosen from lists submitted by several manufacturers, is presented elsewhere in the story.

Many other hardwoods are usually found available in standard panels. Medium hardwoods which lead in use, together with their characteristics, are: Gum (plain), reddish brown to white, mild figure; Gum (figured), reddish brown, highly figured; Prima Vera (white mahogany), stripe figure.

Most hardwood plywood is made with woods indigenous to the section where it is manufactured as core stock. In the case of multiple-ply hardwoods the underlay and the veneer face are applied to the core stock. Shipping costs are thus reduced, and in the case of scarce woods this acts as a conservation measure.

Some of the fine hardwoods are designated as "bending stock" and may be used to surface round pillars or curved counters.

The different hardwoods used in plywood manufacture have different colors, as shown in the preceding table, vary in texture, and have a

wide range of grain figures.

Straight-grained, plain-cut white oak and English oak have a beauty all their own and are associated with Gothic styles. Mahogany suggests many designs of the furniture period and maple and birch are typical of Early Colonial styles.

With few exceptions, hardwood plywood panels can be obtained in the following sizes:

1/4- and 1/2-inch 3-ply			
Width	24", 30", 36"		
Length	48", 60", 84"		
1/2-inch 5-ply			
Width	24", 30", 36"		
Length	60", 72", 84"		
1/2-inch 5-ply			
Width	24", 30", 36"		
Length	72"		
1 1/8-inch 5-ply			
Width	24", 30", 36", 48"		
Length	60", 72", 84", 96"		

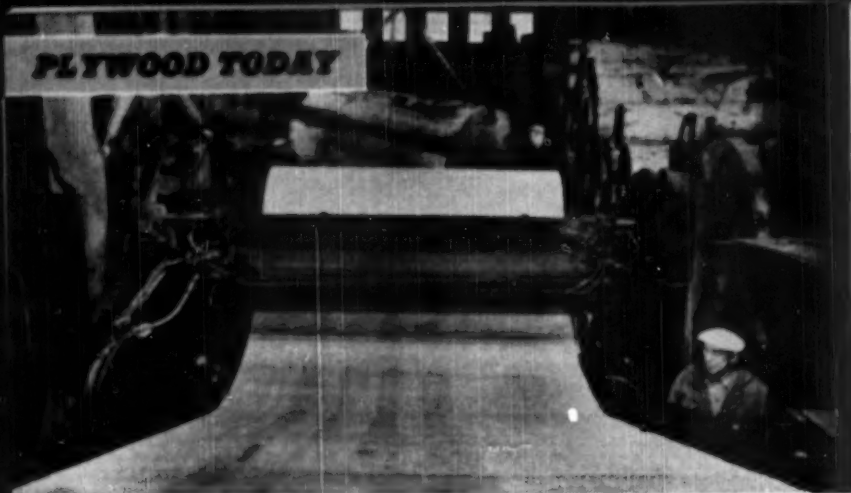
Nearly all hardwood plywoods made in standard panels are available in 48 inch x 96 inch panel sizes.

As with fir plywoods, in new construction 3/4 inch or 1/2 inch hardwood plywoods can be installed directly over studs no more than 16 inches apart.

However, to achieve the best results furring strips of 1/4 inch plywood, cut two inches wide with the grain running the short way, should be nailed to the studding and blocking. For best results, the panels should be both nailed and glued to the furring strips, although either method may be employed alone.

In nailing panels the nailing may be done close to the edge without fear of splitting and by so doing the nail holes can be covered with molding if considered necessary. By use of the furring strips individual panels are practically united into a single unit of wall which swelling or shrinking of the building will not affect. This

PLYWOOD TODAY



ABOUT 2,000 square feet of plywood can be manufactured from a "peeler" block 50 inches in diameter. The block is rotated against a sharp blade which shaves off a uniformly thin sheet of wood veneer.

obviates the necessity for molding unless desired. When plywood is being used over a plaster wall furring strips must be used.

Hardwood panels require some finishing after installation. A standard filler can be applied, although this is not necessary if care has been exercised in handling. Clear shellac, varnish and wax will bring out the tones of the panels. There is also a wax which may be used as a single coat on hardwood panels. Waxed surfaces are better because they are easy to keep clean.

Sometimes it is difficult to find a man in small towns and villages who can do a nice finish job. In such cases, factory finished panels are obtainable at slightly higher prices.

Although painting or papering hardwood panels would hide their beauty, and, perhaps defeat the very advantages they enjoy over other plywoods, the methods are the same as those which obtain with other plywoods.

Other uses suggested for hardwood plywood are ceiling and floor surfaces. Blocks cut six inches or 12 inches square, running alternately as to grain, are growing in popularity and add considerable attraction to the home.

Ceiling surfaces may be selected from any number of woods but floor surfaces are usually selected from oak. This wood offers a long life as well as floor patterns of real distinction.

As with fir plywoods, newer uses are being discovered for hardwood plywoods and with greater realization of these uses, plus the undoubted beauty of its veneer surfaces, builders of both medium-priced and luxury-type homes find potential homeowners increasingly aware of its possibilities.

The opportunities for the selection of varying patterns of grain are ever present in the hardwood plywoods.

Oak, for example, may be plain cut, quarter sawn or express an intermediate type of figure called a bastard cut. Maple may grow straight-grained or logs may have a bird's-eye figure or show a curly grain. Maples also may be cut by different methods and add to the varieties of figures within the species.

Black walnut, besides permitting the cutting methods for oak and possessing the types of growth for maple, has also crotch, burl and stump growths.

The crotch growth has a feathery and curly beauty which adds attraction to plywood designs and construction. Burl growth yields a small sheet

of veneer, studded with eyes and concentric figures surrounded by a dark-colored endy wood which has a peculiar beauty when applied in alternate directions with small square-cut panels. Stump growth patterns are slightly similar to the crotch growth but the greatest number of whorls resulting from the growth of numerous roots growing in all directions adds still greater beauty to the panels.

Sweet gum, redwood and cypress, too, yield remarkable burls which, together with those mentioned above, offer the designer of plywood products an almost endless variety of wood figures and grains.

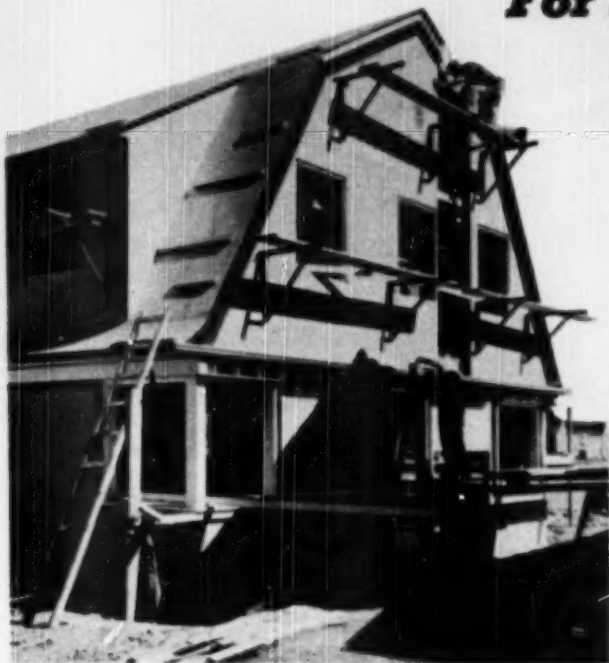
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POPULAR HARDWOODS USED IN PLYWOODS

NAME	COLOR	FIGURE
Avodire	White	Mild
Ash	Light Tan to Brown	Mild
Birch	White or Red	Mild
Butternut	Light	Mild to Medium
Cherry	Reddish	Normal
Duali	Light Tan	Medium
Elm	Light	Mild
Magnolia	Light	Mild
Mahogany	Red	Stripe, broken stripe plain and crossfire
Maple	White	Birdseye, curly and plain white
Oak	White--Red	Quartered large flake or mild figure, plain sawn and rotary cut.
Orientalwood	Light Brown	Highly figured, stripe or crossfire.
Satinwood	Golden	Exotic firing
Walnut (American Black)	Light to Dark Brown	Stripe heart, stripe or crossfire
Walnut (Circassian)	Light Brown and Black	Highly figured

For Sheathing Subflooring Roof Decking

FHA recognizes structural attributes of plywood by relaxing framing requirements when panels are adequately nailed to framing members



IN applying plywood sheathing on the roof, edges should be protected from the weather along eaves and rakes by a lumber strip, by flashing or by a strip of exterior waterproof plywood. The new set of FHA minimum requirements on use of plywood for subflooring is described on these pages



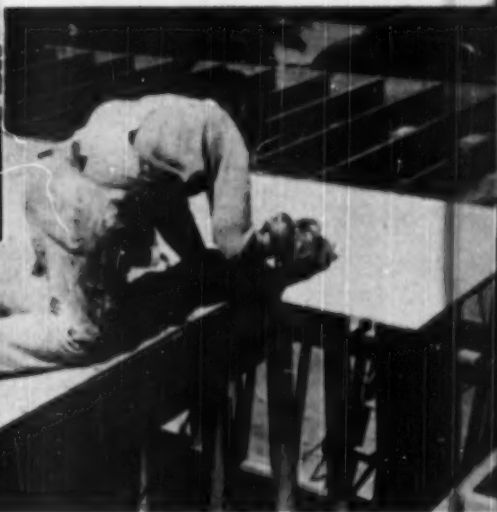
ITS QUALITIES of rigidity and strength plus quick, economical application make plywood a favorite material for sheathing, subflooring, and roof decking. Tests by the U. S. Forest Products Laboratory show that plywood imparts more than double the rigidity and strength of diagonal wood sheathing. Major savings in application time are achieved by using the large but light panels that cover from 32 to 48 square feet of area at a time, depending on whether the panels are eight feet, or longer, up to 12 feet in length. Builders report as much as a 50 per cent saving in time when using this type of sheathing, subflooring, and roof decking.

As in all places where plywood is used, it is important that the cor-

rect grade and thickness be used for maximum economy and structural strength when applied as sheathing. Plyscord, the recommended grade for sheathing, subflooring, and roof decking is in the interior type of plywood groups. It is manufactured with highly-moisture resistant but not waterproof glues. It will withstand occasional wetting such as might be encountered during ordinary construction.

Plyscord is an unsanded panel with certain veneer defects permitted on both sides. These defects are limited to those which do not materially affect its serviceability. It is manufactured in 4-foot widths in 8, 9, 10 and 12-foot lengths. Thicknesses are 5/16- and 3/8-inch 3-ply, and 1/2- and 5/8-inch in 5-ply.

Closely allied with the use of this



material for sheathing, subflooring and roof decking is its use for concrete forms for basement walls and its re-use in the same structure for the purposes mentioned, particularly subflooring.

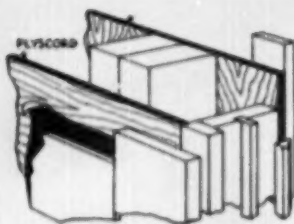
The minimum thicknesses of Plyscord when used for wall sheathing are 5/16-inch for 16-inch stud spacing and 3/8-inch for 24-inch stud spacing.

New minimum property requirements of the Federal Housing Administration specify that corner braces in house framing may be eliminated when 4x8-foot sheets of plywood are nailed with 6d nails, 6 inches on center on all edges and 12 inches on center at intermediate bearings. When 5/16-inch plywood is applied as wall sheathing, wood shingles may be fastened directly

PLYWOOD TODAY



CORNER braces in house framing may be eliminated and still comply with FHA requirements when the correct grade of plywood is used and nailed as FHA specifies








STOCK window frames with 4 1/4-inch jamb widths are readily adapted to plywood walls. The simplest procedure is for the jobber, dealer, or builder to rip the jambs and sills to the desired width

with ring-barbed nails. If barbed nails are not used, nailing strips must be employed. Likewise, ring-barbed nails must be used for application of asbestos cement shingles

or siding to 5/16-inch plywood wall sheathing.

Suggested thicknesses of Plyscord roof decking based on roof load and rafter spacing are shown in the following table prepared by the Douglas Fir Plywood Association.

STRENGTH AND RIGIDITY OF FRAME WALLS (From U.S. Forest Products Laboratory Tests, Wall with Openings)		
Sheathing Material	Relative Rigidity	Relative Strength
 1x8' DIAGONAL SHEATHING	1.0	1.3
 2x32' FIBERBOARD (3d nails, spaced 2' at all vertical edges, 3 1/2' to 6' elsewhere.)	1.6	2.1
 HORIZONTAL SHEATHING (2d nails, spaced 1x4' to 1x6' in spans, 1x8' to 1x10' at edges, 1x12' elsewhere.)	1.5	2.2
 1/4" PLYWOOD NAILED (3d nails spaced 9" at edges, 12" elsewhere.)	2.0	2.8
 1/4" PLYWOOD GLUED TO FRAME	3.7	4.0

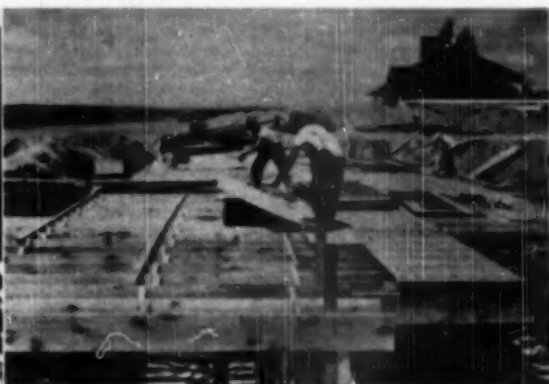
Recommended Thicknesses for PLYSCORD ROOF SHEATHING (Panels Lengthwise Across Rafters)		
ROOF LOAD*	RAFTER SPACING	THICKNESS
20 lb./sq. ft.	18 in.	5/16 in.
	22 in.	3/8 in.
	27 in.	1/2 in.
	33 in.	5/8 in.
40 lb./sq. ft.	12 in.	5/16 in.
	16 in.	3/8 in.
	21 in.	1/2 in.
	24 in.	5/8 in.

*For deflection limited to 1/360 of span.

FHA requirements permit 5/16-inch plywood roof sheathing over rafters 16 inches on center under both wood and asphalt shingles.



CLOSELY allied with the use of Plyscord for sheathing is its use for concrete forms and its re-use in the same structure



for subflooring or sheathing. Care must be taken in stripping forms so as not to split or fracture the panels. The

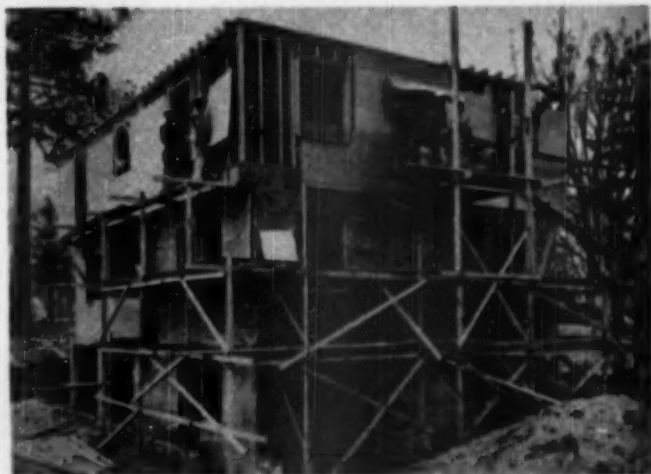


Wood shingles, however, must be applied with nailing strips unless $\frac{1}{2}$ -inch plywood is used. The rafters may be spaced 24 inches on center when $\frac{1}{2}$ -inch plywood is used.

Douglas Fir Plywood Association engineers find that a 5/16-inch or $\frac{3}{8}$ -inch Plyscord subfloor with joists 16 inches on center is entirely adequate when $\frac{3}{4}$ -inch finish flooring is used. The finish floor should be laid across the joists and nailed to them. Experience has proven, however, that the $\frac{1}{2}$ -inch and $\frac{3}{4}$ -inch thicknesses are most popular for subflooring. The $\frac{1}{2}$ -inch panel meets all structural requirements.

New FHA minimum property requirements specify that floor joists may be 24 inches on center when $\frac{1}{2}$ -inch Plyscord sheathing is laid with the face grain across the joists under 25/32-inch strip finish flooring, provided the finish flooring is laid across the joists. If the strip flooring is parallel to the joists,

THE tight walls achieved with plywood make facilities for ventilation very important to avoid dangers of damage to structure from high humidities and moisture condensation.



workman at left is using a steel bar, a practice which is not recommended, particularly where detail and smooth con-



crete walls are desired as part of the finished structure. If wedges are necessary for stripping forms, they should be wood

PLYWOOD TODAY



THICKNESS of plywood panels for subflooring varies with type of job. The $\frac{1}{2}$ -inch panels meet all structural requirements



SECTION of an exterior wall running across the joists. First joist is set $\frac{5}{16}$ -inch outside of stud line to provide for $\frac{5}{16}$ -inch plywood panel. This simplifies use of standard 4x8 foot sheathing panels, applied either vertically or horizontally

they cannot exceed 20 inches on center. If the surface grain of the plywood sheathing is parallel to the joists and the strip finish flooring is at right angles to the joists, they cannot be more than 20 inches on center to pass FHA minimum requirements.

Under the new FHA revisions, also, $\frac{3}{8}$ -inch plywood is permitted as a base for wood finish floor—strip, block or parquet; linoleum, composition, rubber or ceramic tile when the following application requirements are followed: (a) joist spacing not more than 16 inches on center; (b) blocking installed under all panel edges at right angles to joists and (c) nailed securely 6 inches on center at all edges and 10 inches on center at intermediate framing members. Further, joist spacing may be increased to 20 inches if $\frac{3}{8}$ -inch plywood is used

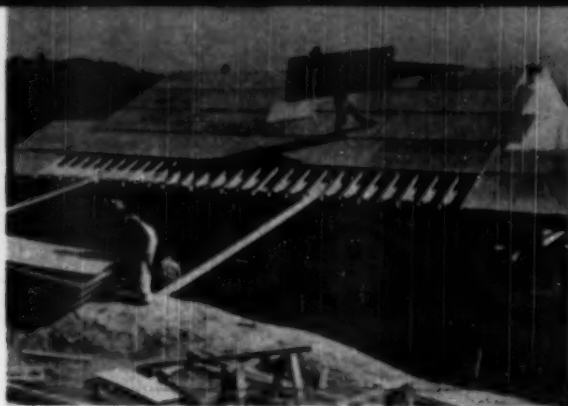
and to 24 inches if $\frac{1}{2}$ -inch plywood is used when requirements (b) and (c) above are followed. To be acceptable to FHA under these requirements, panels must be laid with outer panel grain across the joists.

Many builders still prefer to use $\frac{3}{8}$ -inch and $\frac{1}{2}$ -inch plywood subflooring for extra rigidity.

The value of plywood as a base for linoleum and other floor coverings in kitchens, bathrooms, utility spaces and other areas, as well as for work surfaces and tables has gained much recognition. Plypanel, with one smooth, sound surface of "A" veneer, has been regarded as the ideal base material and remains so. There is a new Plybase grade, however, with one surface of "B" veneer, manufactured specifically for this use, entirely adequate and somewhat more economical. The



AS A BASE for linoleum or other floor coverings, the smooth, sanded Plypanel or Plybase grade plywood is used over Plyscord (unsanded) subfloor or a single layer of thicker Plypanel or Plybase is installed as combination subfloor under-lay under linoleum or other coverings



ROOF decking not only goes on faster when plywood sheets are used, but rafters may be spaced further apart for further saving

plywood, in either grade, can be used directly under linoleum, without felt, although it is recommended that the linoleum manufacturers' directions be followed closely. The $\frac{3}{4}$ -inch panels are recommended as base for linoleum and other floor covering materials of that type, and also for a base under wall-to-wall carpeting.

Plywood has been found to be an excellent backing for other wall panel materials which require a smooth, solid backing. Around bathtubs, showers, and similar areas exposed to unusually large amounts of moisture, exterior grades of plywood should be used. Exterior grades of plywood should also be used for drainboards.

In all cases correct nailing techniques must be followed for fastening the plywood and other components of floors, walls, and roofs. For nailing $\frac{5}{16}$ -, $\frac{3}{8}$ - and $\frac{1}{2}$ -inch Plyscord, 6d common nails should be used. The $\frac{3}{4}$ -inch Plyscord should be fastened with 8d common nails. Nails should be spaced not more than six inches apart at the edges of panels and not more than 12 inches apart on other bearings when plywood is used for sheathing or subflooring.

In applying Plyscord, especially on the roof, the edges should be protected from the weather along cornices and rakes by a lumber strip, by flashing or by a strip of exterior waterproof type plywood.

Good construction practices dictate that proper design and detail be followed to avoid possible moisture condensation within walls, no matter what material is used. This consideration is particularly important in walls sheathed with plywood because the application of plywood makes a tighter wall sheathing than most other materials. Normal precautions must be taken for proper ventilation both in attics and crawl spaces to prevent high humidities, dampness, and condensation.

Workmen experienced in using the large sheets for sheathing and subflooring find that application requires less time and work when large open areas are covered first. The odd pieces and short lengths left after covering the large areas are then fitted above and below windows and around other open-

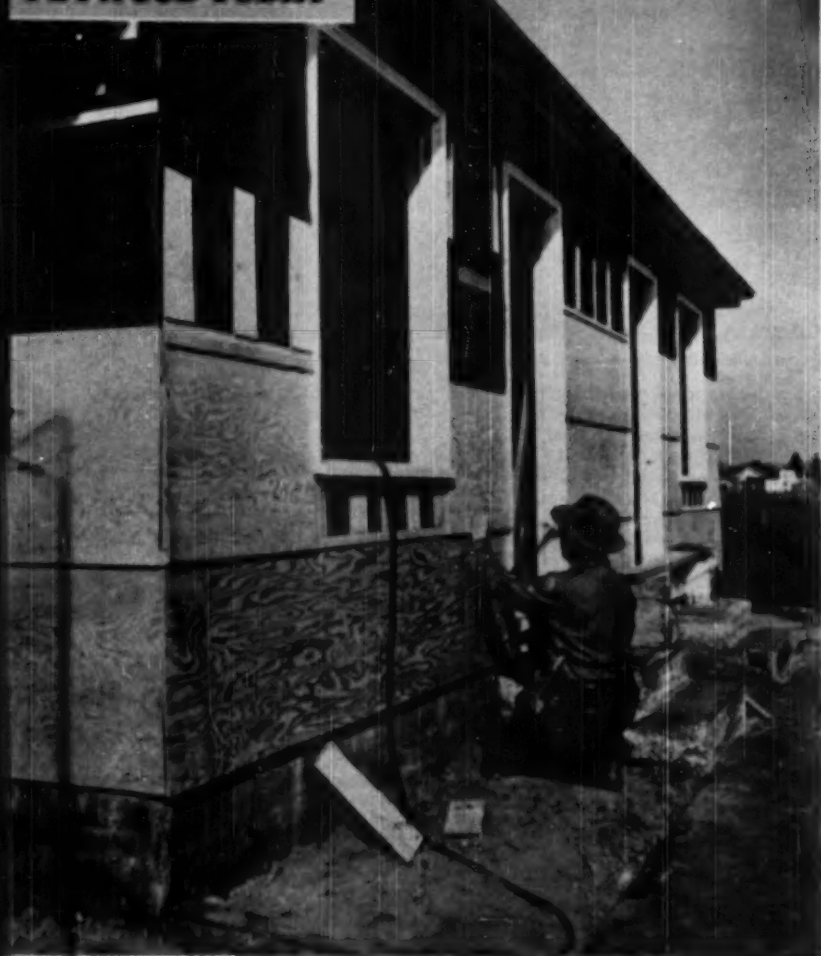
ings. Experienced crews find that an allowance of five per cent for waste is adequate when plywood is used. Because of the care with which plywood is manufactured and graded, all of each panel is usable and even those pieces which would ordinarily be classified as waste, are usable in the structure. In ordering plywood to cover any area, it must be remembered that each panel covers exactly the area of the dimension listed. For example, a 4x8 sheet always covers 32 square feet.

When structures are designed on the 4-inch modular basis, the 4x8-foot panels fit perfectly into the module.

Because plywood is all wood, ordinary power woodworking tools of all types can be utilized to full advantage in the application of the material.

THE sheathing grade of plywood should never be used for ceiling in basements or under overhangs, because it is not designed for prolonged exposure to the weather. Only exterior type plywoods should be used for flashes exposed to weather





EXTERIOR plywood being applied as wide lap siding. Standard 4x8-foot panels are ripped to 16- or 24-inch widths and exposed edge beveled so water will drip from outside edge.

For Exteriors

ARCHITECTS and builders have found plywood to be one of the most versatile materials available for achieving unusual and pleasing effects in the exteriors of homes and small commercial structures. Wherever plywood is used for permanent outdoor exposure, however, it is imperative that only the exterior type with waterproof adhesive bond be applied. The industry produces a number of appearance grades within the exterior type, such grades determined by different surface standards. The particular panel intended for use as siding for homes and other structures is Plyshield, a grade within the exterior type group. This material has one face of sound veneer that is

sanded satin-smooth at the factory, ready for any type of fine finishing. The reverse face of Plyshield may have certain appearance defects which do not affect the strength or serviceability of the panel.

As with other fir plywood, Plyshield grade is manufactured in several standard sizes and thicknesses. However, the most popular size is the 4 x 8-foot panel. A minimum thickness of $\frac{3}{4}$ inch is recommended for siding in quality construction.

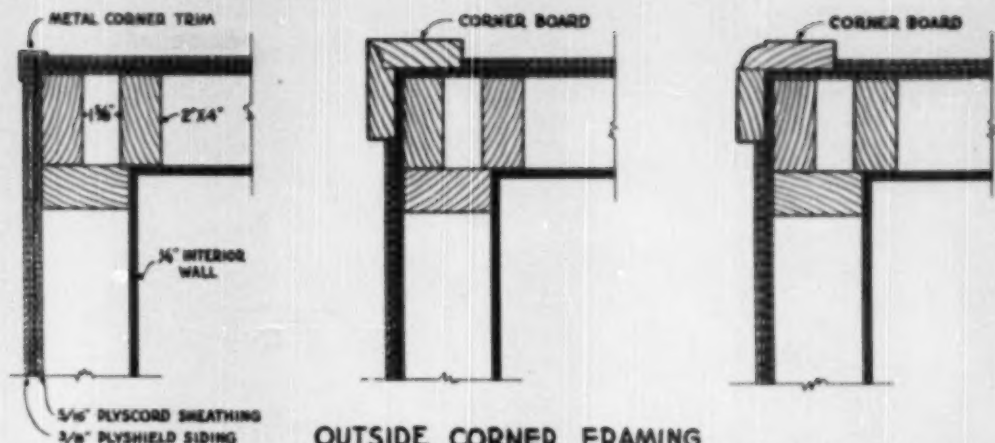
The architectural design of a residence or commercial structure largely determines whether the plywood panels are applied vertically or horizontally in the sizes in which they come, or if they are to be cut, what shape

Plywood is becoming increasingly popular as a material for exterior finishing of homes and small commercial structures. Innumerable unusual and pleasing architectural effects are possible with panels

the pieces are to be to obtain the most attractive appearance. Whatever the design, care must be taken to make certain the exterior skin of the structure will always be weathertight.

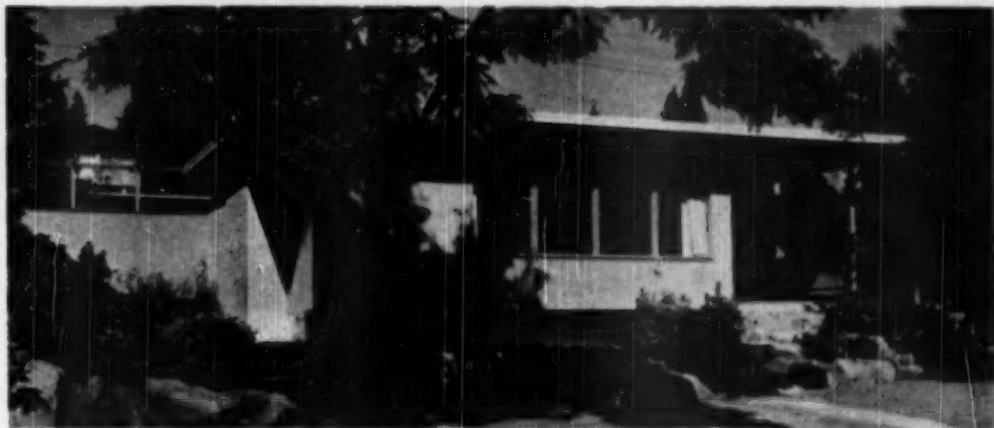
Plyshield may be applied horizontally or vertically with molded battens, V-grooves or flush joints to make possible modern exteriors for residences, garages, cottages, stores, warehouses and other commercial structures. The material makes excellent wide siding for traditional or modified house designs when applied in half-panel or third-panel widths.

Plywood is used to good advantage by many architects and builders to complement other building materials, with the plywood used in gable ends.



OUTSIDE CORNER FRAMING

TIGHT joints to keep out weather are an essential when plywood is used or when any other material is involved. The three corner joint treatments above may be used whether plywood sheets are applied vertically, horizontally or on the wide lap siding.



PLYWOOD was used to obtain the smooth exterior finish on this contemporary house, where it is in combination with brick.

entrance treatments, paneling above or below windows, for an upper or lower band on walls, for dormers and bays. It is a popular material for horizontal surfaces such as soffits, porch ceilings and breezeway ceilings. A special precaution should be noted regarding use of plywood for these horizontal surfaces. Only the exterior type should be used. No interior type plywood should ever be exposed to the weather even though it may be well painted and under cover.

The minimum thickness of plywood recommended for siding is $\frac{3}{4}$ -inch, although for economy in some types of construction $\frac{1}{2}$ -inch panels are used successfully. For construction of single-wall structures, such as warehouses, $\frac{3}{4}$ -inch or thicker Plyshield siding has been used with success and economy.

Exterior plywood siding should be

applied with non-corrosive nails. The common, hot-dipped galvanized type is satisfactory. Nailing should be with 6d common or with 6d box nails for $\frac{3}{4}$ -inch siding and 8d for thicker siding. When full-size 4 x 8-foot or longer panels are used, fastenings should be spaced not more than 6 inches on center at panel edges and 12 inches elsewhere. When narrow 12- to 24-inch panels are installed as lap-siding, nailing at panel ends should be not more than 4 inches on centers.

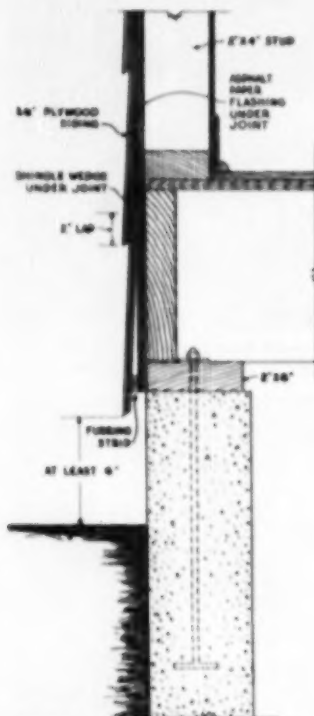
In applying exterior plywood for siding there are several simple and easily adapted methods for handling joints between the panels. Some suggested treatments for both horizontal and vertical joints as well as water table details are shown on these pages.

All edges of plywood siding, no matter whether butted, veed, covered,



THREE wide horizontal strips of plywood above window-height eave resulted in this pleasing combination. Painted wood molding covers the horizontal plywood joints.

PLYWOOD has answered the requirements of designers wishing to achieve wide, smooth underside overhangs on contemporary houses. Although this area is somewhat protected from the weather, only the exterior type of plywood should be used



DETAIL showing application of plywood panels as wide lap siding. Note that a shingle wedge and asphalt paper flashing are used under vertical joints. D.F.P.A. engineers recommend that the lap be at least two inches and that it be bedded in lead and oil paste or another similar compound

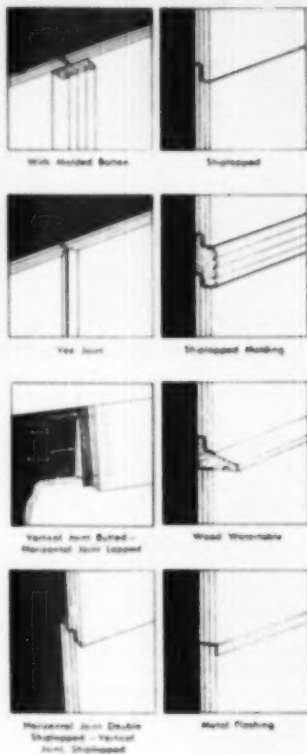
or exposed, should be bedded in a thick lead and oil paste or other suitable compound. This is knifed on as the panels are applied. Specifications for the filler or bedding, which have been approved by FHA are: 100 pounds of paste white lead, 1- $\frac{1}{4}$ gallons of raw linseed oil and one pint of dryer. The dryer may be reduced to one-half pint if boiled linseed oil is used.

If plywood is installed as lapped siding, it is recommended that the lap be at least two inches and bedded in paste. The vertical joint should be backed with narrow strips of wood shingles tacked to the studs. The vertical butt joints may also be flashed by a strip of asphalt-impregnated building paper tacked over the shingle and lapped just over the course below. Horizontal edges of plywood used as lapped siding should be beveled slightly so water will drip from the outside edge.

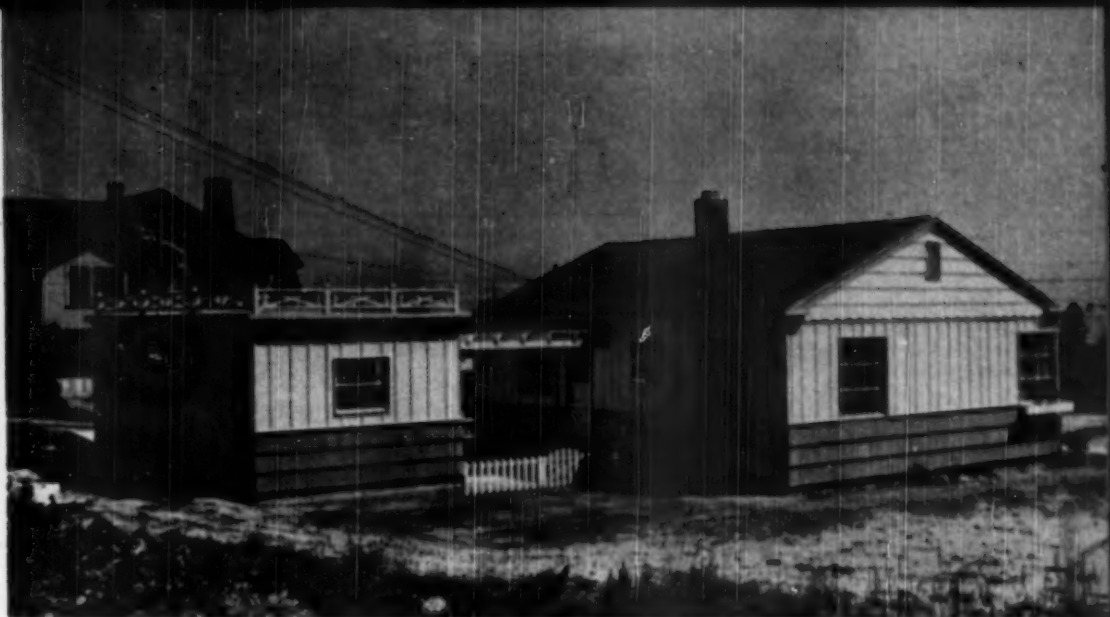
FHA minimum requirements specify that when plywood is used as siding it must be of the exterior type and a minimum of $\frac{3}{4}$ -inch thick with studs 16 inches on center. When sheathing is used the plywood siding may be $\frac{3}{4}$ -inch thick.

Field observations, exposure fence studies and Weather-Ometer studies by the Douglas Fir Plywood Association indicate that the best paint systems for plywood are the same as those that are the best for conventional wood siding.

The high grade TL-TLZ (titanium-lead primer and titanium-lead-zinc finish or titanium-lead-zinc



Above are eight popular plywood joint treatments used successfully. Where joints between large sheets are recognized as such and made a part of the architectural design, they are usually easier to treat

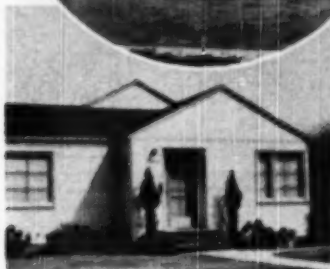


ABOVE the three courses of shakes here, the exterior is all plywood. To simulate plank siding, 1/2-inch molding was nailed at 12-inch intervals over the plywood panels. The gable ends are plywood with the same 1/2-inch molding applied horizontally

THE unusual gable end treatment on this house was achieved by V-grooving the large panels of exterior type plywood. Modern power woodworking tools make this type of work with plywood economical



TYPICAL example of effective exterior that can be achieved when wide plywood lap siding is used on a small, low-priced house



WITH the improved supply and lowered prices, plywood is becoming increasingly popular as a material with designers and builders of low-priced houses. It is particularly popular as an exterior material that can be used as an over-all covering or as a material to achieve de-

stable architectural effects and variety in elevations. On the house at left the scalloped-edge smooth gable end is of plywood. The entire exterior wall of the house in the center is plywood, with wood molding applied horizontally at varied heights, resulting in an exterior that is

not only attractive but pleasingly different. The smooth gable end on the center house is V-grooved into squares. The small entrance covering is also plywood. Unusual gable treatment on the house at right is enhanced by the use of plywood to obtain a smooth surface

PLYWOOD TODAY



PLYWOOD has gained wide recognition as a versatile and permanent exterior material for small commercial structures. Some examples are shown here. (1) All-plywood exterior in combination with glass block and large areas of plate glass. (2) Wood molding was used to em-

phasize horizontal lines of this builder's office, finished with plywood in combination with brick and natural Dutch siding. (3) Filling station exterior with metal molding covering horizontal plywood joints. (4) Unusual block effect here was achieved by scoring plywood and paint-

ing blocks in light and dark tan. (5) Plywood exterior of filling station (6) ready for painting. (7) Old lumber manufacturing firm's office building adjacent to mill before it was remodeled inside and out with plywood to produce an attractive, modern building (8)

Field observations and studies indicate that the best paint systems for plywood are the same as those which are best for any conventional wood exterior siding. Exterior plywood should always be applied with non-corrosive nails

(primer and finish) exterior house paints and the white lead and oil paints give excellent service on plywood. The TLZ formulations tend to have more lasting appearance qualities.

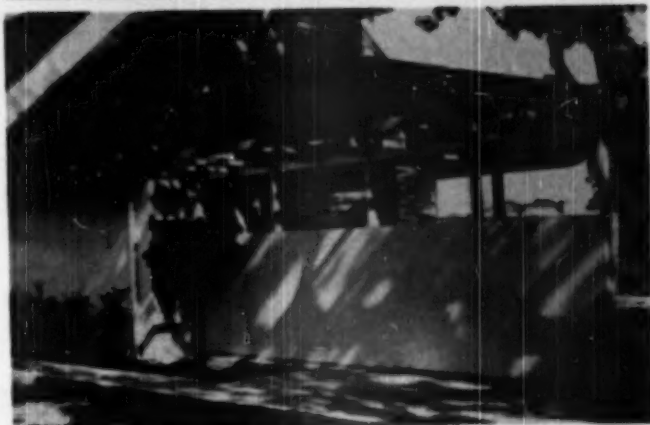
Three coats of a high grade TLZ (or TL-TLZ) exterior house paint are suggested as the best conventional type protective coating for plywood used for exterior siding or similar uses. The initial prime coat is the most important part of the paint system. It is advisable to thoroughly brush on a high grade exterior house primer that has been reduced with one quart of pure linseed oil per gallon of paint. An aluminum primer, compounded from aluminum paste and top quality long oil spar varnish, makes an excellent primer for plywood. The aluminum paste is mixed into the vehicle (about 1- $\frac{3}{4}$ pounds paste or powder in 1 gallon of varnish) just before application to obtain optimum leafing characteristics. This formulation is reported to be superior to most ready-mixed aluminum paints. The materials are packaged in a 2-compartment can. The remaining coats are to be applied according to manufacturer's directions.

The top quality 2-coat TLZ exterior house paints perform satisfactorily on plywood, although it is necessary to have the same dry film thickness as the 3-coat systems to obtain comparable weatherability.

It is not advisable to use paints that set to a hard, brittle film because they are likely to check, due to their inability to withstand the dimensional changes that occur in wood.

Textured or stucco type finishes may be obtained by the application of materials designed to obtain these effects. Oil or synthetic resin base paints containing mineral particles and asbestos fiber as part of the pigment have proved popular and in most cases quite satisfactory.

All exposed edges of plywood panels should be sealed with a heavy coat of exterior primer or white lead paste. In unusually damp locations it is wise to back-prime the panels. Plywood should be primed as soon as possible after erection.



THE permanence, stability and easy workability of plywood make it a desirable material for fences, especially where

maximum privacy is desired. In the three examples shown here it was used to good advantage to enclose outdoor living areas

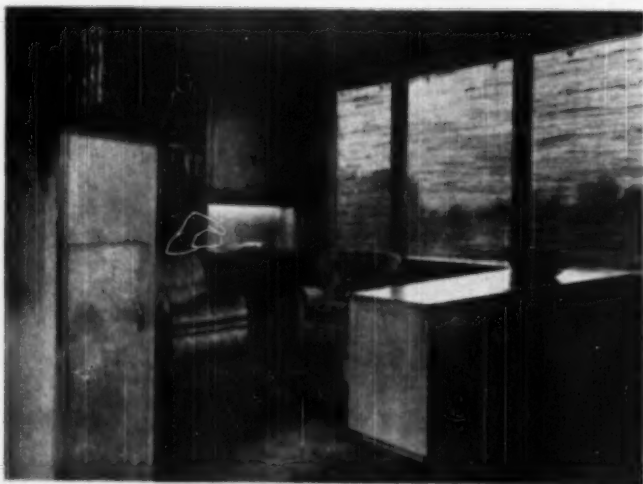
PLYWOOD TODAY



THE soft, inherent beauty of wood paneling in natural finish enhances the beauty of this modern interior

For Interiors

There is not only a wide variety of finishes possible with this material in houses and commercial structures, but its versatility for fabricating built-in features is making it increasingly popular

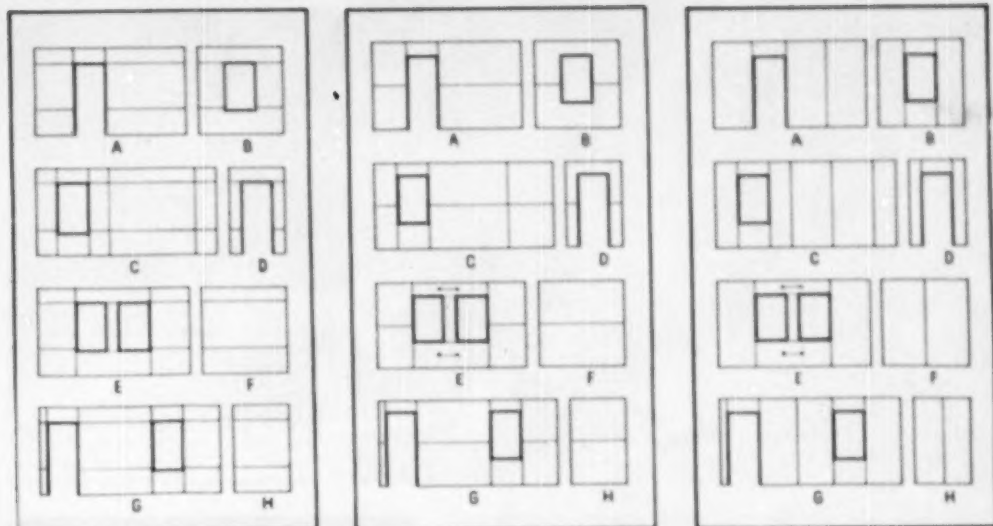


HERE, as in the room shown above, plywood was used for built-in furniture features which blend with the wood paneling interior. Cabinet at left serves as part of wall

THE INCREASING popularity of dry wall construction with builders and the public has focused the spotlight on plywood as a material for finishing the interiors of homes, offices, and commercial structures. Long recognized for its ease of handling and beauty when final finish is applied, plywood is now available in a wider variety of select wood surfaces for interior use than ever before.

In addition to the special woods, a number of "overlays," made from resins, wood flour, or paper, are being applied. Special decorative faces are being machined on fir plywood to develop "striated" plywood and various raised grain effects, many of which are applicable to exteriors as well as interiors.

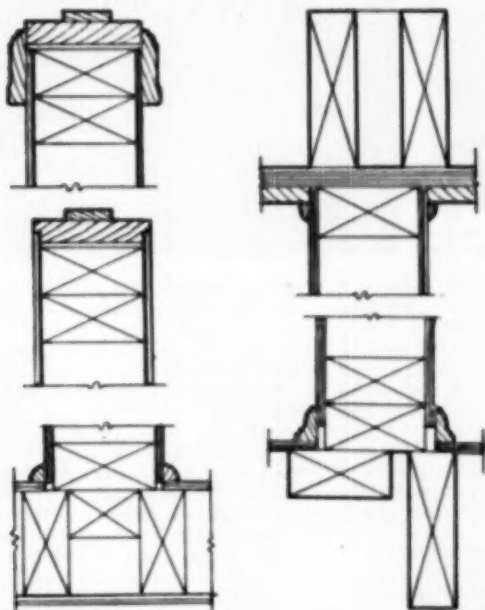
Plypanel is the grade of Douglas fir plywood designed for interior finishing: of walls, ceilings, partitions, storage walls, cabinets and built-in furniture where only one surface is



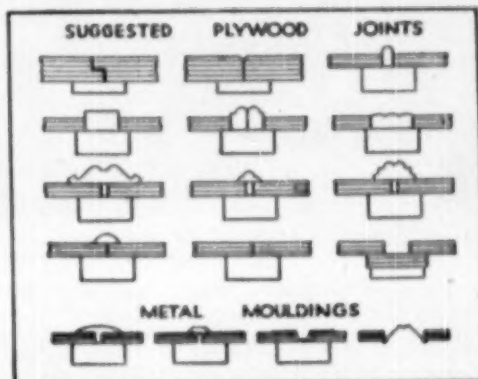
ABOVE are three basic interior plywood wall paneling design suggestions. The best rule to follow is to start paneling at the openings with vertical joints and then divide the plain wall space in an orderly pattern with panels placed in reasonably balanced horizontal or vertical spaces. Where the width of the wall is 16 feet or less, panels may be run

horizontally in two or three pieces with the openings cut out. Place vertical joints at each side of the top of door and at top and bottom of window openings. If the width of door or window opening is more than four feet, most designers do not hesitate to place panels horizontally. Combinations of vertical and horizontal arrangements may be used

in the same room with pleasing effect. Panels in 8- and 16-foot lengths are available to help solve special paneling problems. Joints between panels constitute no problem since they can be beveled, reed, covered with molding, or handled in any one of the many ways illustrated at right below. Recognition of the joints as such adds to architectural effect



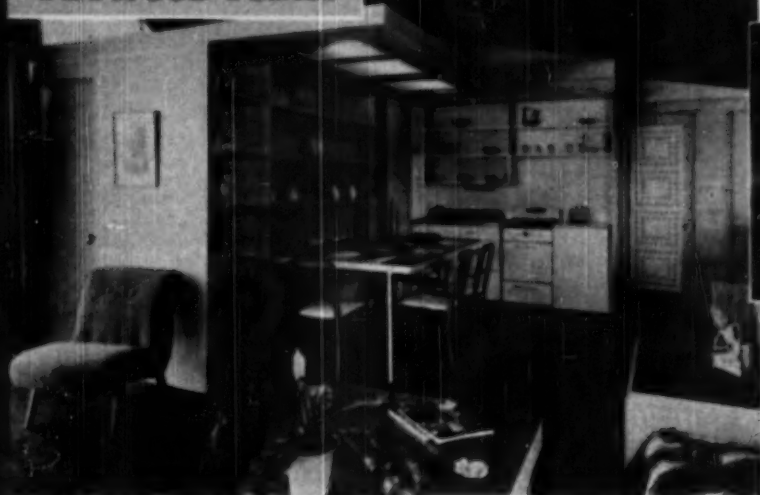
AT LEFT is a section of a partition wall running parallel to floor joists showing suggested installation detail for wood paneling. At right, above, is suggested treatment where partition and outer wall meet. Below that are two suggested details for working around door jacks with plywood paneling. Photo at the right shows another all-plywood home interior



A FEW suggestions for joint treatment on interior plywood walls, utilizing both wood and metal moldings. Modern portable power woodworking tools make precision work possible



PLYWOOD TODAY



AT LEFT is a built-in plywood buffet and table which closes to form part of a paneled wall, above. Note the canopy above the unit with concealed electric lighting

BELOW is another built-in plywood table which folds up into the wall and is concealed, when not in use, by the panel which slides over the opening from above



STRIATED plywood in combination with wood molding was used to finish the walls of this dining area, which includes built-in cabinet features



to be exposed and finished. Both sides of the panels are sanded smooth at the factory.

Thicknesses most popular for wall paneling are the $\frac{3}{8}$ -inch and $\frac{1}{2}$ -inch panels, while the $\frac{3}{4}$ -, $\frac{5}{8}$ -, and $\frac{3}{4}$ -inch thicknesses all have widespread use in cabinets, built-ins, and doors. As is true with most grades of fir plywood, about three-fourths of the Plypanel supply is of 4x8-foot sheets. Smaller panels, particularly 3-foot widths and 6- or 7-foot lengths, as well as 9-, 10- and 12-foot lengths, are used to advantage in many instances and are manufactured as standard sizes. The quantity of any size other than the 4x8-foot dimension is rather small.

For better wall construction with Plypanel, panels $\frac{3}{8}$ -inch thick are recommended, over studs 16 inches on center, although $\frac{1}{2}$ -inch panels may be used satisfactorily for econ-

omy. Panels are applied either vertically or horizontally, the latter affording extra rigidity.

Many building codes require a 2x4-inch fire stop, about four feet from the floor, between studs. This horizontal member serves as backing for plywood panels and is recommended. The 48-foot panels, most popular in interior finishing work, fit exactly to the modular construction principles because the panel in both dimensions presents a multiple of the standard 16-inch stud spacing.

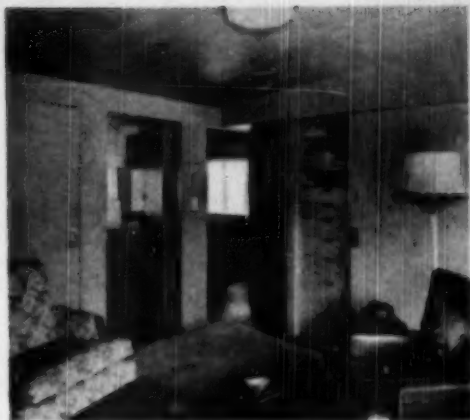
Plywood panels $\frac{3}{8}$ -inch-thick are fastened with 6d finish or casing nails spaced 6 inches on center and $\frac{1}{4}$ -inch panels are applied with 4d finish nails.

Joints between plywood panels pose no problem under ordinary conditions. In fact, frank recognition of the joints as such can add much to the architectural effect. Panel edges

may be butted flush, V-grooved, covered with decorative moldings or have inset moldings.

A basic principle in applying plywood paneling is to start at openings with vertical joints and divide plain wall spaces in any preferred, orderly arrangement. Often moldings are applied to obtain horizontal streamlined effects or a variety of paneled designs. V-grooves, easily made with portable electric routers, can be effectively employed to simulate narrower paneling or to make designs on the panel face. Lapping of panels is particularly effective in ceilings.

Interior finishing with plywood permits curved surfaces where they are desired. In many commercial installations this is an advantage because fixtures may also be made of plywood to harmonize with walls and ceilings. In developing curved sur-



DOUGLAS fir plywood was used on the walls and ceiling in this room. Joints are flush. The same material was used for the built-in storage wall unit, concealed with sliding doors.



PRIMARILY because of the versatility of plywood, built-in wardrobes, buffets, nooks and storage areas are common in today's modern houses. At left is another version of the popular built-in wardrobe and at right is a built-in dining room buffet finished with smooth plywood in combination with striped panels.



THE built-in unit shows here is made of fir plywood, which also covers the walls and ceiling. The built-in unit is painted a deep color to contrast with the soft shade of paneled walls.

faces with plywood, it is often desirable to install the panel to be bent first, and then to fit the flat surfaces. In a varying radius, the sharpest curve should be made and secured first. Use of continuous rounded backing, such as hand-sawn framing, contributes to a better job and reduces the risk of rupturing the plywood.

For critical bends it is sometimes advisable to use two layers of thin panels. In using plywood for short radius, it may be soaked in hot water until warmed through. When this is done, only exterior type plywood should be used, and even then it is done at a greater risk of rupture, possible checking, and grain raising.

Bends are made more readily across the grain. Saw kerfing on the concave side of a curve at regular intervals to a depth of about one-half

the panel thickness helps materially. For severe bends, panels should be carefully selected for straight grain.

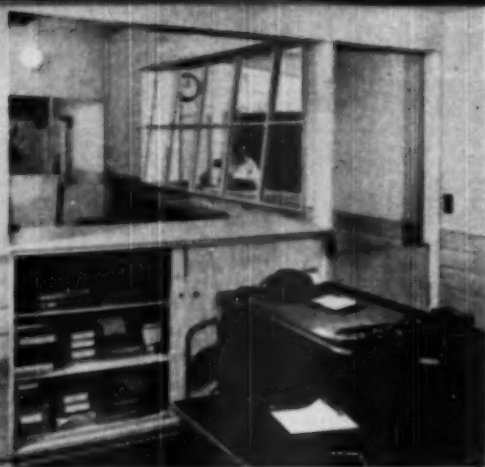
The most perfect plywood wall paneling job can be ruined unless the correct finishing technique is used. Simple, yet attractive light stain finishes for interior walls of Douglas fir plywood have been developed. The procedure is to subdue the grain contrast yet preserve the natural beauty of the wood. Basic steps for this method are:

1. A coat of interior white undercoat thinned one part undercoat to one part turpentine or painter's thinner. This may be wiped with a rag or dry-brushed for more grain show-through. When it is dry, it should be sanded lightly with fine sandpaper.
2. One coat of thinned white shellac or clear resin sealer. This seal

coat may be thinned more or omitted completely if greater color penetration is desired. This should also be sanded lightly with fine sandpaper when dry.

3. One-color coat, which may be an interior undercoat or an enamel, thinned as for the first step; or color in blending oils. Light stains may also be used. The color coat is applied thinly and wiped or dry-brushed to proper color tone. When dry, it should be sanded lightly with fine sandpaper.
4. One-coat flat varnish. To achieve the best effect here, the varnish coat may be buffed with No. 1 steel wool. A variety of colors and shades may be obtained with this method by changing the color coat. An inexpensive but pleasant blond finish can be obtained on Douglas fir plywood with a single coat of interior

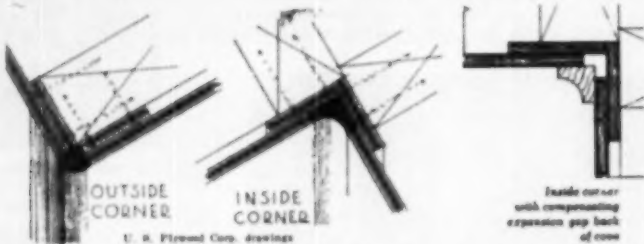
PLYWOOD TODAY



PLYWOOD is universally popular for finishing walls and building fixtures in commercial structures. Two examples are shown here



PANELING with plywood permits curved surfaces where desirable. In developing curved surfaces, the panel to be bent is usually fastened flat, and the flat surface then fitted to it. The use of continuous, rounded backing makes best job



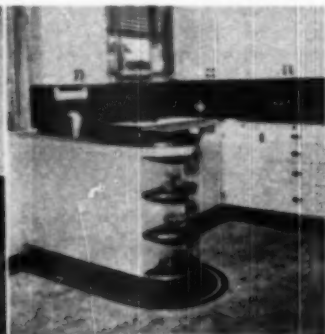
THREE suggested details for joining plywood at corners when paneling interiors

APPROXIMATE MINIMUM BENDING RADII For Douglas Fir Plywood

PANEL THICKNESS	APPROXIMATE MINIMUM RADIUS ACROSS GRAIN	APPROXIMATE MINIMUM RADIUS PARALLEL TO GRAIN
$\frac{1}{8}$ Inch	6 $\frac{1}{2}$ Inches	10 Inches
$\frac{1}{4}$ Inch	15 Inches	34 Inches
$\frac{3}{8}$ Inch	36 Inches	34 Inches
$\frac{1}{2}$ Inch	6 Feet	8 Feet
$\frac{5}{8}$ Inch	8 Feet	10 Feet
$\frac{3}{4}$ Inch	10 Feet	12 Feet

Note:—It should be recognized that an occasional panel may rupture at somewhat longer radius than indicated because of characteristics of the wood (such as short grain) in the particular panel.

THE above table is the result of research by Douglas Fir Plywood Association engineers



SIMPLE wood molding was used over the horizontal joints in paneling the office at left. Dark stain on lower panels and light above in combination with two colors of wood molding produced

the effect in the office at center. The kitchen at right is but one example of an infinite number of uses here for plywood where smooth surfaces and good appearance must be achieved

white undercoat thinned so the wood pattern shows through. The undercoat may be tinted if color is desired. Then apply a coat of clear shellac, lacquer or flat varnish for durability. Attractive and economical one-coat stain-wax finishes in various colors are marketed by a number of manufacturers.

When the natural appearance of fir plywood is to be retained, a simple coat of white shellac and flat varnish will do it, although a normal amount of darkening will take place under exposure to light. When using conventional stains on fir plywood, the method is to apply a clear resin sealer, followed by successive coats of stain and varnish. The sealer may be omitted if greater color contrast is desired.

Smooth, jointless enameled walls may be obtained with fir plywood panels by first covering the plywood with painter's canvas or an inexpensive unbleached muslin. Panels should be butted closely and all nail holes, hammer marks and joints filled with crack filler. Then the paneling should be primed with flat white oil paint. Next, hang the muslin as wallpaper with wallpaper paste, strained to remove all lumps, taking special care to get neat joints. When this is dry, a coat of glue size is applied. Over this any conventional enamel finish can be applied. This system is desirable in at least two rooms of the average house—the kitchen and bathroom. It will be satisfactory wherever a smooth, unbroken paint surface is desired over fir plywood.

Flush joints for unbroken walls to be textured may be formed successfully with the tape joint procedure. Merely butt the panel edges and fill any openings with Spackle of Swedish putty. Over the joint, a perforated paper wall tape or gauze is imbedded in joint filler compound; when dry, a second layer of filler is applied and feathered out several inches on each side. The joint is sanded smooth before painting or papering. For greatest joint smoothness, panel edges which are to be joined may be beveled slightly, starting two or three inches from the edge, before installation. Other methods of obtaining flush joints include glued shims at panel edges or the gluing of plywood to furring strips nailed to the framework.

When water-thinned paints are to be applied over fir plywood, the panels should be treated with a clear resin sealer to prevent grain raise. Paint coats can then be applied according to the manufacturers' directions. Textured surfaces are obtained by priming with a regulation undercoat followed by a heavy coat of stippling



HORIZONTAL panels in combination with vertical panels were used in this office. Joints are covered with wood molding. Built-in desk table is exposed for easy access.

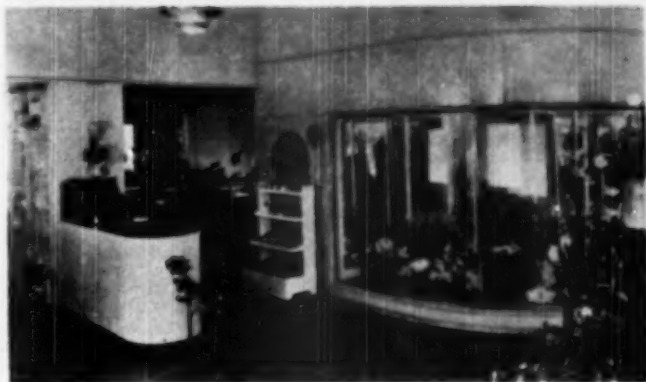
paint, worked with a stipple brush, roller or sponge.

To prepare fir plywood panels for wallpapering, the panels should be closely butted, primed with a thin, flat white paint and the joints filled with Swedish putty. The surface should then be coated with a wheat

flour paste to which has been added a gelatin glue size. Over the plywood apply a layer of smooth wall-liner, blank stock or smooth 34-pound deadening felt. The wall-liner, or building felt, should be butted neatly and rolled smooth. The wallpaper then may be hung according to standard practice.



PLYWOOD features blend with paneled walls here. Note plywood cut-out display rack.



CURVED plywood walls and counter surfaces bring modern touch to this floral shop.



IT is common practice for home builders to use the sheathing grade of plywood for forms and then re-use it in the structure

THERE are several grades of Douglas fir plywood manufactured specifically for use in concrete forms and for multiple re-use

For Concrete Forms

PLYWOOD is a universally popular material for the construction of concrete forms. It is important for satisfactory results, however, that the correct grades of plywood be used for the type of wear to be expected from the forms.

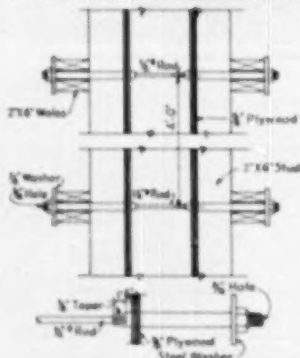
Two standard grades of Douglas fir plywood are made in various thicknesses especially for concrete form use. They are:

1. Plyform, for multiple re-use, is made with highly water-resistant, but not waterproof adhesives. It is manufactured in standard 4x8-foot sheets and in thicknesses of $\frac{1}{8}$, $\frac{9}{16}$, $\frac{3}{4}$, and $\frac{7}{8}$ -inch. These thicknesses of Plyform panels combine sheathing and lining in one rigid, smooth material. Plyform for form liner is made in $\frac{1}{8}$ -inch thickness.
2. Exterior-type Douglas fir plywood, grade-marked EXT-DFFA-Concrete Form, is form material to be used and re-used until the wood is literally worn away. In appearance it is the same as Plyform. The difference is that this grade has a completely waterproof bond between the plies. The exterior type is made in two thicknesses— $\frac{3}{8}$ - and $\frac{1}{2}$ -inch in standard 4x8-foot panels.

For those relatively few buildings



A TIE for architectural concrete in which minimum-sized holes from ties are desired. The set screw grips the rod to prevent slipping. Oiling or coating with paraffin will ease removal of rods from concrete

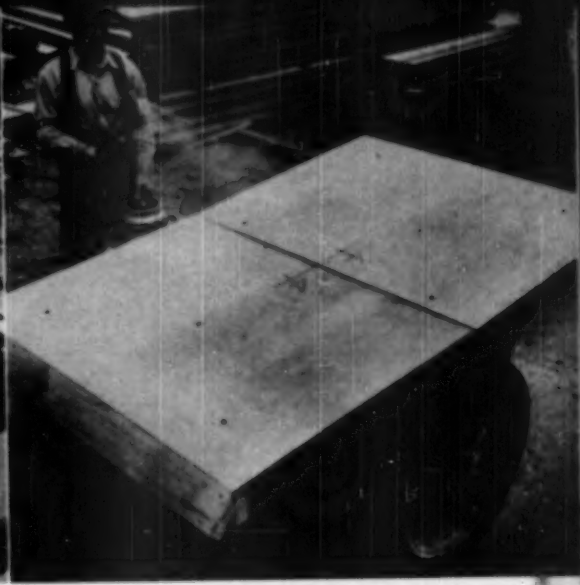
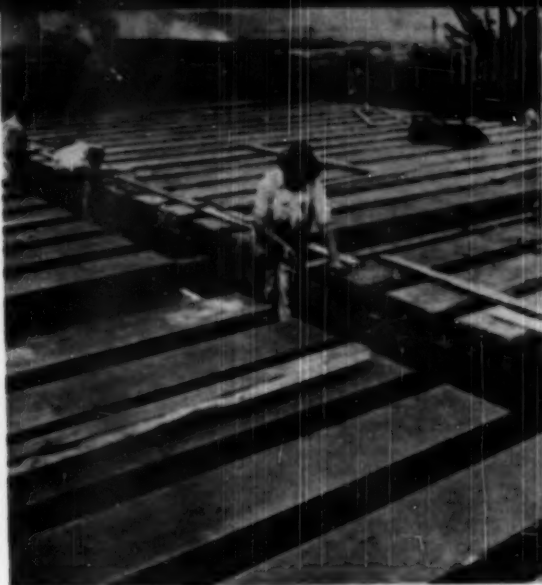


DETAIL OF FORM BOLT

ON panels for high walls, the selection of an efficient tie between form walls is important. This detail illustrates a practical tie known as a "Bolt-Bolt" suitable for use in most structural concrete work

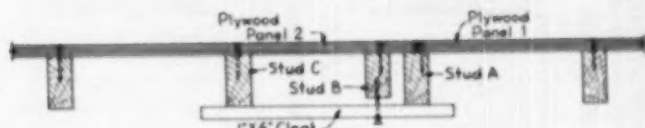
requiring the ultimate in architectural concrete, specifiers and builders may choose from among several other plywood materials to meet their exacting form requirements. The new plastic-surfaced plywood materials are being used with outstanding success on construction requiring the best possible appearance of the concrete surface. Such panels are the exterior type bonded with waterproof adhesives, with the added feature of a special abrasion-resistant, moisture-resistant, resin-fiber surface. Other alternatives include exterior type plywood with one or both faces of blemish-free sound quality veneer.

The thickness of plywood to use in concrete forms depends on the loads, permissible deflection, and spacing of studs, joists, or stiffeners. The $\frac{3}{8}$ -inch and $\frac{1}{2}$ -inch thicknesses are most popular. It is axiomatic that the supporting framework, studs, wales, posts and joists must be constructed for deflection, bending strength and shear in studs and joists and for column action in posts. Plywood requires proper support from studs or joists. The height and rate of pour as well as fluidity affect pressures against the forms and spacing of supports. The following table can be used as a guide to thicknesses of plywood for concrete form construction.

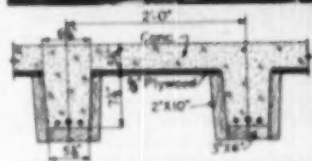


ALL panels should receive a uniform coating of a good grade of form oil before each pouring. A thin film is sufficient.

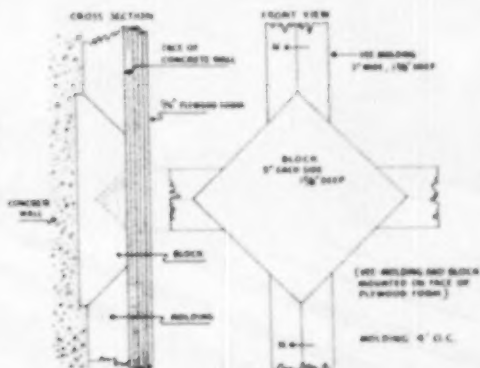
WORKMEN preparing plywood forms for joint and flat slab construction. Underside forms ceiling of building's lower level.



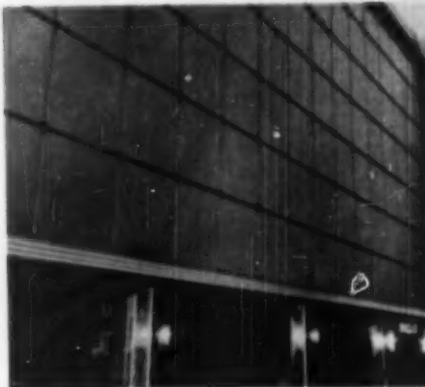
THIS is a method of detailing panel forms to obtain good alignment and inconspicuous joints. Panel 1, of which stud A is the edge stud, is first set in position. The plywood sheathing of panel 1 laps over stud A only to the center leaving the other half to receive the edge of the sheathing of panel 2. Stud B, which is the edge stud of panel 2, is 1/4 inch to 1/2 inch less in depth than studs A and C. The 1x6-inch cleat bears against studs A and C and is nailed with a double-headed nail to stud B. This will draw the sheathing of panel 2 snugly against stud A, making a very inconspicuous joint, provided the plywood has been cut to a smooth, straight edge. The sheathing of panel 2 is not nailed to stud A, so the panels can be stripped very simply by removing the walies and the 1x6-inch cleat.



BECAUSE good forms were used a minimum of finishing was required on these concrete joints. Detail of forms is above.



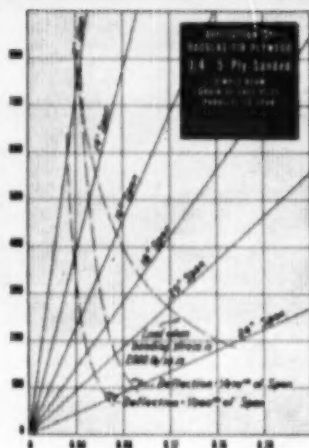
UNUSUAL exterior lines of the concrete building at right were obtained by using specially-built plywood forms. Detail shown above.



PLYWOOD TODAY



SELECTION of the proper grade of form plywood and care in construction and erection of forms can result in unusually satisfactory exterior finishes on modern concrete structures

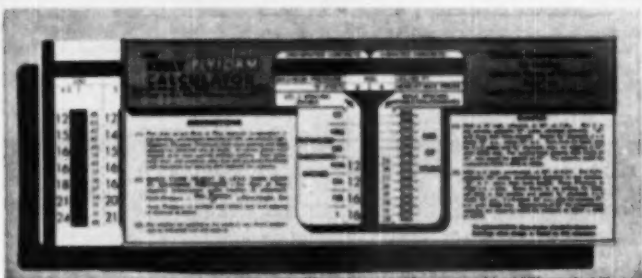


Values are calculated on panels placed with face grain across the studs:

Thickness	Stud Spacing	Limiting Deflection	Maximum Load
1/2"	12"	1/270 of Span	880 lbs. sq. ft.
1/2"	12"	1/270 of Span	1,330 lbs. sq. ft.
1/2"	16"	1/270 of Span	560 lbs. sq. ft.
1/2"	12"	1/360 of Span	640 lbs. sq. ft.
1/2"	12"	1/360 of Span	1,000 lbs. sq. ft.
1/2"	16"	1/360 of Span	470 lbs. sq. ft.

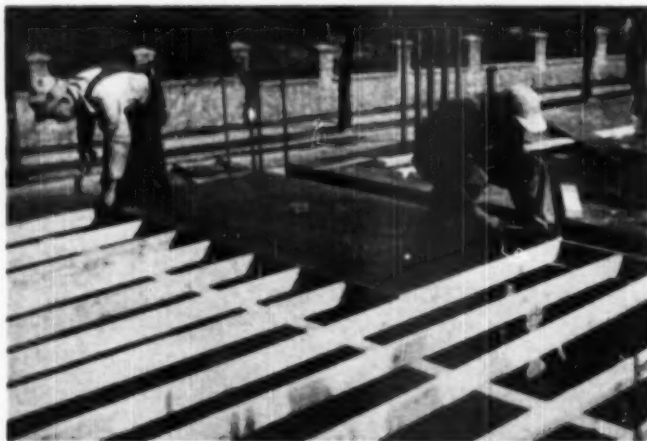
In building up concrete form panels, a simple jig for ready spacing of studs and stiffeners is a great time- and labor-saver. Wherever possible, the work should be done under conditions to permit the full utilization of power tools.

Nails for forms should be as small and as few as practicable. For nailing plywood to studs, use nothing larger than a 5d nail in panels up to 3/4-inch-thick and 6d



THE chart at left shows deflection of Douglas fir plywood when the grain of the face-plies is parallel to span or when panels are lengthwise across supports. When panels are placed parallel to supports, loads causing any deflection will be smaller. For 1/2-inch plywood figure 75 per cent for given span and allowable deflection

KNOWN as the new Keely Plyform Calculator, the instrument above provides specification use data on thickness of plywood and size and spacing of studs, wales and ties based on hourly rate of pour. It calculates for either vibrated or unvibrated concrete at either 50 or 70 degrees. Copies are available for builders



FOR buildings where the ultimate in perfectly smooth, fin-free architectural concrete is desired, the new plastic-surfaced plywood panels, shown here, give excellent results

THE smooth, massive lines on the exterior of this structure were obtained by pouring concrete into plywood forms. Note the circular annex at left, with upper portion round, lower paneled

nails for $\frac{3}{4}$ -inch panels. Lining plywood, $\frac{3}{4}$ -inch-thick, is applied with 2d nails. When panels lap at corners and, in fact, wherever possible in assembling forms, the use of double-headed nails will facilitate stripping and minimize destruction of lumber. A method of detailing panel forms to obtain good alignment and inconspicuous joints is illustrated on these pages.

Plyform panels are edge-sealed at the mill and also are oiled unless otherwise specified. Some builders are having success with special lacquer as a first coat instead of oil. This gives better protection to the plywood and results in a smoother wall. If this system is used, the plywood should be ordered from the mill "not oiled." Where oil is used all panels should receive a uniform coating of a good grade of form oil before each pouring. Too much oil will stain the concrete. A thin film that makes the surface feel greasy to the touch is sufficient. No free oil should be apparent. Careful attention should be given to corners and edges of panels to prevent damage. All saw cuts or other workings should be treated with lead and oil, aluminum primer, shellac, or similar material as the job progresses. Any open cracks in joints should be pointed up or calked with lead, putty or plaster-of-Paris filler. The calked joints, after drying, should be carefully

sanded and given an added coat of form oil.

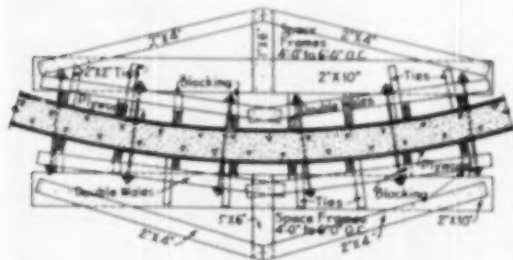
For architectural concrete and smooth surfaces, all joints in forms should be pointed with water putty, patching plaster, or a mixture of equal parts of tallow and Portland cement.

For sharply curved concrete surfaces, with a radius of not less than 15 inches, $\frac{3}{4}$ -inch plywood panels make form construction easy. For minimum radius plywood is bent across the grain. For example, $\frac{3}{4}$ -inch plywood may be bent to a 15-inch radius across the grain and only to a 24-inch radius parallel to the grain. For moderate curves thicker Plyform may be used. The $\frac{3}{4}$ -inch panels may be bent to an 8-foot radius crosswise or 10-foot lengthwise.

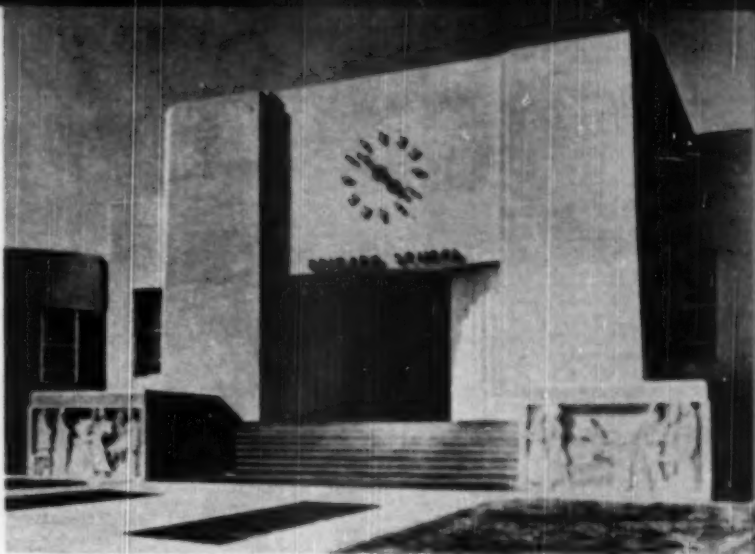
Skill is required in stripping any forms from concrete. Carelessness

can nullify the value of expert detail and best materials. No metal wedges or tools should be placed against freshly set concrete to pry the forms loose. If wedges are necessary, they should be of wood. The wedging should be done carefully and by degrees with light tapping on the strip to break adhesion.

After stripping, the panels should be immediately and thoroughly cleaned of any concrete particles. A wide blunt blade should be used for this purpose. Projecting nails should be drawn to prevent scarring panels in stacking the sections. If the sections are to be completely dismantled, the plywood panels should be stacked evenly on a dry and level platform and protected from the sun and rain. The number of re-uses that can be expected is in direct ratio to the care exercised in handling the panels.



SHOWN above is one method of detailing a long-radius round concrete form with plywood. For architectural concrete and smooth surfaces, all joints in forms should be pointed with water putty, patching plaster or a mixture of equal parts of tallow and Portland cement. For sharply curved concrete surfaces with a radius of not less than 15 inches, $\frac{3}{4}$ -inch plywood panels, bent across the grain, may be used



PLYWOOD forms used for curved fence with paneled effect



Architect: John Lautner. Photograph: Garber-Sturges

Designing with Plywood

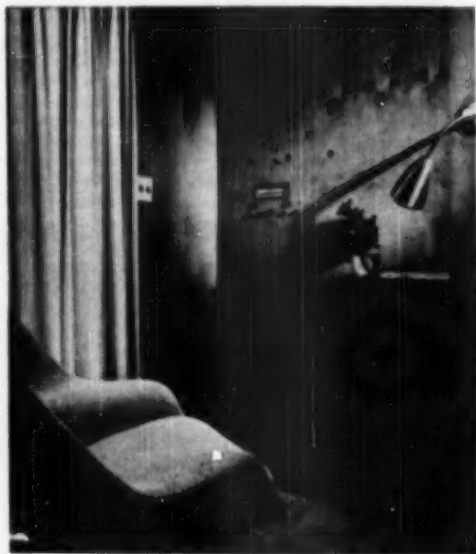
By Whitney R. Smith, A. I. A.
Pasadena, Calif.

ARCHITECTS, designers and builders have known for years the obvious advantages of plywood as a structural material. The industry eagerly accepted this strong, light weight sheet material in sheet sizes that one man could handle. Carpenters, builders, and home owners have discovered by actual use how strong plywood really is—stronger than steel by weight. One of its big advantages, soon discovered by users, is that nails can be placed close to the edge and not pull away or split the material. U. S. Forest Products Laboratory tests show plywood-sheathed walls are many times as strong as walls braced by conventional methods. The advantages of plywood's smooth, rigid surface under linoleum are universally recognized.

With the advent of the period when more and more waterproof plywood was being manufactured with new methods, new bonds, and new presses, more attributes of the material came to light. It was discovered that the material was hardy enough to be used for row boats with water on one side and sun on the other. It was then that new ideas began to enter the minds of architects and designers. Here was a structural material that was also a finish material. Plywood provided structural strength and also exposed its beauty of grain. Here and there, residential architects experimented. Wood had taken on a new dimension. Plywood, however, was not wood, as men have known it throughout civilization. Designers found new and exciting shapes inherent in the material. Plywood seemed to have no limitations except the imagination of the designer.

Accompanying photographs show several of many recent unusual uses of plywood in the residential field, as well as some very common uses. These examples suggest many other design uses for this material.

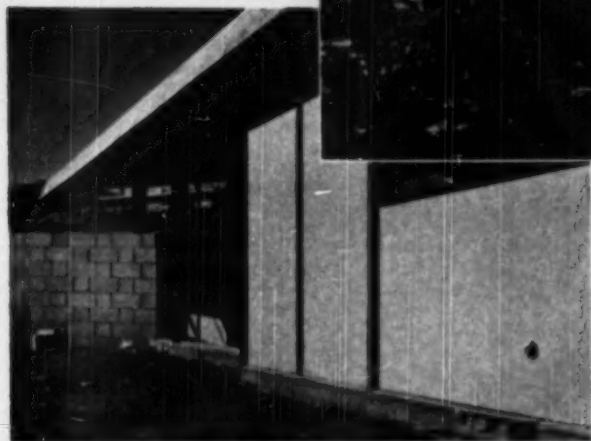
THE strength of these L-shaped beams comes from the use of Douglas fir plywood nailed to both sides. The beam is deeper where stresses are greatest. In the hands of a capable and sensitive designer the structure becomes an important part of the design.



Architect: Wayne R. Williams. Photograph: Garber-Sturges

ONE seldom-tried use of plywood is perforation. In this example, the perforation is not only an interesting decoration, but it also provides a source for radio and phonograph sound. A glance at the uses of perforated metals will remind designers of the fertile fields for plywood in acoustics, lighting, and ventilation.

THE exterior type of plywood used here serves several purposes, but the principal one is giving stability to the building across its short axis. Also important is the quality of privacy which is given between each terrace, and the textured grain pattern which is an interesting attribute

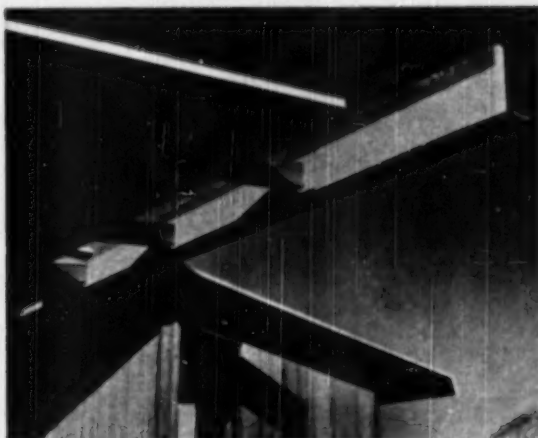


Architect: Richard Neutra. Photograph: Julius Shulman



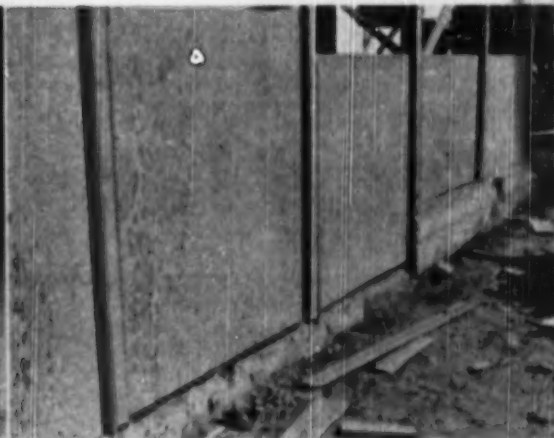
Architect: W. P. Keding. Photograph: Vernon Hager

IN areas of moderate climate, the plywood itself is sufficient to form the walls between occupant and the elements. In this residence, rabbetted posts are placed four feet apart and the exterior type of plywood placed between. Small but covers the joint between plywood and post. The house is carefully designed to avoid waste in plywood. The posts create a pattern on both sides of wall



Architects: A. Quincy Jones, Edgardo Contini, Whitney R. Smith. Photograph: Garber-Sturges

THIS 24-inch deep ridge beam is built up of small Douglas fir members with Douglas fir plywood glued to both sides. The strength of the beam makes it possible to limit the supports to 14 feet on center. This is the principal structural and decorative element of this small house. The beam was fabricated by carpenters working with ordinary tools on the site



Architects: A. Quincy Jones, Edgardo Contini, Whitney R. Smith. Photograph: Garber-Sturges

ON this house an exterior type of plywood has been applied over a conventional 1x3-inch stud frame. In this particular case, the walls are non-structural, the roof being supported by posts and beams seven feet apart. Architects have developed many satisfactory details for connecting plywood panels to frames, posts, sills to form strong joints



In House Prefabrication

In addition to being the basic material for factory fabricated houses, plywood's big contribution to lower housing costs has been where mass builders fabricate and preassemble house parts in woodworking plants adjacent to the site of the development

A MODERN prefabricated house with fir plywood as the basic material inside and out. Prefabricated housing was given tremendous momentum with the development of fir plywood, which made rigid panels possible

THE newest prodigy of the building industry—prefabrication—was given unprecedented momentum with the development of Douglas fir plywood. The large, rigid, durable, easy-to-work panels answered many problems for the pioneers of mass factory production of housing. From the time the first plywood-and-glue prefabricated house was assembled at the Forest Products Laboratory in Madison, Wis., in 1935, on through the war years and at present, fir plywood has constituted the principal exterior and interior "skin" for prefabricated house parts.

Plywood's greatest immediate contribution to lower housing costs, however, is in the field where mass builders fabricate and preassemble house parts in small, temporary woodworking plants adjacent to community development sites. Such houses are completed and sold to the public directly by the builder who, as a rule, operates in no other community. Precutting and preassembly of house parts in operations of this type made possible largely because of plywood have been a tremendous factor in the huge volume of finely engineered houses which have been produced by the industry in the postwar years. The amount of plywood used in this manner as a rule varies directly with the amount of prefabrication and preassembly involved in the houses. It ranges from very little to as high as 60 or 70 per cent prefabrication.

Thus far plywood has not only given tremendous momentum to the development of prefabrication in the home building industry, but

it has proven to be the major building material involved. Actually prefabrication and plywood are so closely allied that the two terms are almost synonymous.

The entry of plywood in the building field brought with it another material strange to most builders—glue—which is not only an essential in plywood but is also used extensively by house prefabricators for permanently bonding plywood to panel frames. When wall covering is glued to the framework, the covering becomes a part of the house frame to bear part of the structural load, inaugurating new standards for stud sizes and spacing. While custom had dictated that wall framework be of 2x4-inch studs and this for years carried over as a prerequisite to acceptance of pre-built structures by building authorities, today recognition of lighter framework in assembled house sections is growing materially. Biggest first step was the adoption by the Uniform Building Code shortly after the war of acceptance of prefabricated structures solely on performance rather than specification. This code, adopted by more than 500 cities, opened the way for 1x3 and 2x3-inch framework with plywood stress covers which provide greater strength and rigidity than conventionally-built walls.

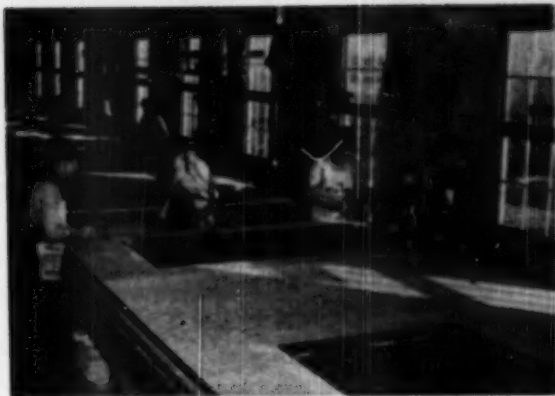
Generally, prefabricated house manufacturers using plywood cover outside walls with 3/4-inch exterior type. Inside lining is usually 3/4-inch. Many firms use exterior type both inside and outside as extra insurance against any delamination which might result from

unusually heavy moisture conditions. When wood siding or shingles are used over plywood sheathing, the latter is usually 5/16-inch Plyscord. Most wall sections are 4x8-feet, the same size as the common plywood panel.

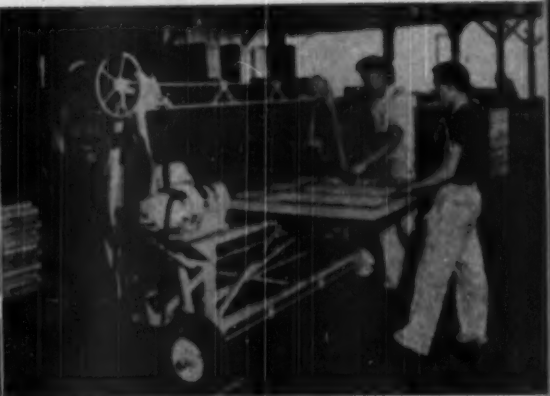
"Stressed-cover" panels for floors are also furnished by many prefabricators, and here the exterior type is common for the underside unless there is assurance the floor will be placed over a dry basement. The bottom of the floor sections is usually covered with 3/4 or 5/16-inch plywood while the upper surface thickness depends on the type of finish floor to be applied. The stressed-cover floor panels also permit use of smaller joists than would otherwise be used.

Plywood ceiling panels are furnished by many manufacturers, either glued or nailed. Plywood thickness for these units is usually 3/4 or 3/8-inch. Among prefabricators a general preference exists for plywood roof sheathing. Several firms have always used 3/4-inch to provide for all conditions of service, although 3/4 and even 5/16-inch sheathing have been used with success. Finish roofing is generally asphalt or wood shingles. Where roofs are flat, they are usually built up over a plywood panel.

Ingenious and successful house prefabricators are continuing to work with plywood to add refinements and improvements to their product. New designs, building code revisions, improved factory operation, new sales, delivery and erection techniques are adding to the stability of the nation's prefabricated house manufacturing industry.



SCENE in a modern house prefabricating plant where the large plywood panels are fastened to framework of wall sections. The popularity of "plywood" with "prefabricators" makes the words almost synonymous



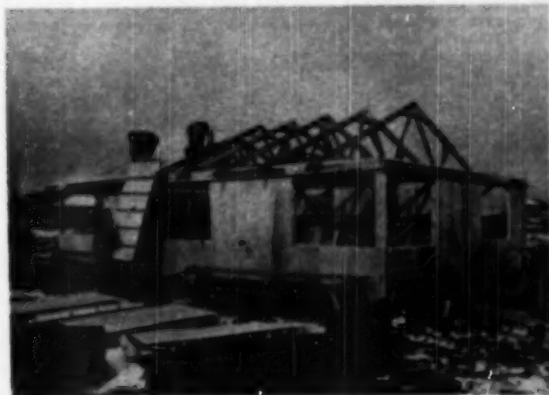
STRESSED-SKIN plywood construction is popular with prefabricators. Here rollers are applying glue to 1x5 inch framing members of a wall section. With plywood on both sides, the section acts as a box beam



FACTORY-FABRICATED kitchen cabinets made of plywood are commonplace and economical. They are produced, not only as an integral part of prefabricated houses, but also by numerous independent woodworking plants



PLYWOOD prefabricated house being erected on a foundation. The recognition by building code authorities of lighter framework in houses of plywood is broadening the potential market for these kinds of structures



PRECUTTING and preassembly of house parts in onsite operations, made possible largely because of plywood, have been a tremendous factor in the huge volume of finely engineered houses produced by the industry



INTERIOR of a prefabricated house with plywood forming the interior wall finish. The versatility of plywood for this purpose makes possible the inclusion of built-in seats and storage areas as standard features



BECAUSE of high humidity conditions in farm buildings only the exterior types of fir plywood with waterproof adhesive bonds should be used

FOR years agricultural engineers have been working to establish a better conception of the value and functions of farm service buildings. The scientific use of good building materials is one of the principal factors involved. Plywood has become an integral part of this program because of the wide range of requirements it can fill, its rigidity, resistance to impact, permanence and its easy workability with ordinary wood working tools.

One of the outstanding characteristics of farm service buildings in most sections of the nation is their dilapidated appearance, with

sagging ridge and wall lines, off-square doors and deteriorated exterior finishes. Douglas fir plywood has achieved recognition and is gaining in popularity as a farm building material which will withstand the rigors of farm service and protect buildings against racking.

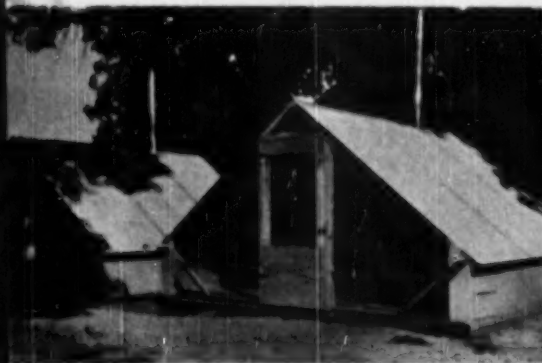
Because plywood used in farm service structures is constantly or repeatedly exposed to weather, to wetting during cleaning or to high humidities, such as in dairy barns, only the exterior type panels with waterproof adhesive bonds should be specified or used. Dependent on the desired appearance of the fin-

On the Farm

Plywood has achieved recognition as a farm building material which not only forms a tight skin for structures but which braces them against racking when it is properly applied and nailed

ished structure, any one of three grades can be selected including exterior Plyshield, exterior Utility and exterior sheathing. The first named grades have a smooth, paintable surface on one side although Plyshield is the best from an appearance standpoint. The sheathing material is rough, unsanded and with appearance defects not materially affecting its serviceability.

As in the case of all grades of Douglas fir plywood, the most popular size in these panels is the 4x8-foot sheet. Other sizes, both larger and smaller are standard items, but proportionately fewer of



THESE are simple but important farm service buildings with exterior plywood as the basic floor, wall and roof material



DRAFTINESS in farm buildings is held to a minimum when large panels are used because there are fewer wall joints

them are manufactured. A wide range of thicknesses is also produced but the $\frac{3}{4}$ - and $\frac{5}{8}$ -inch panels are most popular for such farm applications as siding, lining, and roofs. For floors, stall separators and such uses, the $\frac{1}{2}$ -inch and thicker panels are usually specified, dependent on anticipated loads.

One of the principal reasons so many farm buildings sag out of plumb is the lack of adequate frame bracing. When the large panels of plywood are used for the exterior covering and roof decking of such buildings, and are properly nailed, the buildings are not only much lighter in weight but are automatically braced in all directions.

Plywood is especially valuable for use in portable farm buildings such as poultry brooder houses, hog houses, turkey shelters, and range sheds. The portability factor is of prime importance. If the structure is excessively heavy and difficult to move, the farmer will hesitate to place it over clean ground regularly, thus inviting hazardous exposure of chicks or other livestock to disease. Some of the heavy, clumsy structures, built with ordinary methods weigh as much as 2,000 to 3,000 pounds and when moved frequently over rough ground suffer loosened joints and opened cracks which reduce their practicability and efficiency. By using recommended grades and thicknesses of plywood for such structures, weight can be reduced as much as one half and their useful life extended immeasurably. Plywood's proven rigidity reduces possible racking to a minimum and the lack of numerous joints which might be opened in frequent moving also minimizes that problem.

Regardless of the animals to be

housed, plywood of the proper thickness will withstand years of wear as lining or partition material in farm buildings. When used for the interior of poultry houses, milk houses, dairy barns and similar buildings, it presents a smooth, tight, easily cleaned surface.

Farmers are gradually learning that service buildings are the farm factory buildings and that good materials plus good construction practices in erecting these structures are most economical in terms of permanent use.

Agricultural engineers in colleges and universities throughout the United States have developed a host of plans for farm structures incorporating plywood as the major material. These plans may be obtained by builders and dealers, either from their own state agricultural institutions or from the Douglas Fir Plywood Association.

The basic procedure for painting plywood for outdoor exposure is the same as for any exposed wood product. During construction it is advisable to seal panel edges with a white lead paste, knifed on, or with a heavy coat of exterior house primer.

Exterior fir plywood as a farm building material came in for prominent attention last fall as Commodity Credit Corporation purchased some eight million bushels capacity of all-plywood grain bins from a dozen farm fabricators.

The plywood structures are a part of storage facilities the government purchased to protect shelled corn as the nation faced the greatest carry-over of the cereal in history. The units, of course, are equally suitable for storage of wheat and other grains.

Plywood contracts went to firms widely scattered throughout the



EXTERIOR type plywood is now used extensively in the construction of farm sites. There are a number of designs which have been developed for special needs.



THIS plywood hog feeder is another example of the many ways in which this material is now being used on nation's farms. Note the curved plywood cover.



TOBACCO curing barn built with exterior type fir plywood. Engineers have found that the $\frac{3}{4}$ -inch panels are thick enough for a satisfactory job in this structure.



MORE than 8,000,000 bushels of capacity in all-plywood grain bins was purchased last fall by the Commodity Credit Corp. They were fabricated by more than a dozen firms in a variety of shapes and capacities. Those above are the large round type.



THE rigidity and easy portability of farm feeders made of plywood make them as popular as the portable plywood buildings.

west and midwest. The bins are of varying size, shape, and design. Both rectangular and circular structures are included, some entirely plywood with floors, sides and roofs of the panels; others are principally plywood but with slab floors. The bins are of the on-farm-storage type ranging in size from about 2,000 bushels to 4,500 bushels capacity each.

The designs are the result of extended research and testing of plywood grain storage facilities undertaken during the past ten years by agricultural schools, bin fabricators, and plywood manufacturers. In some cases, college plans were followed expressly, such as those from Midwest Plan Service of Ames, Iowa, a joint service of 14 midwest agricultural schools.

Other bins were built from adaptations of these designs while some were of designs developed by individual plywood fabricators.

In delivering—and erecting—the plywood structures at the many different sites throughout the corn belt, fabricators demonstrated clearly that plywood bins can be furnished as low in price as can storage facilities of other quality materials. The plywood bins were delivered, complete and erected on the specified sites, at prices averaging only about 23 cents per bushel, a figure well below the average.

Here are the firms known to be among the fabricators of plywood grain bins under the CCC program recently concluded:

American Houses, Inc., New York City

Buckingham Wood Products Co., Rapid City, S.D.

Engineered Plywood Products Co., Tacoma, Wash.

Engineered Structures, Inc., Tacoma, Wash.

TYPICAL DOUGLAS FIR PLYWOOD THICKNESSES FOR FARM SERVICE BUILDINGS

	Floor		Walls		Roof		Notes
	Plywood Thickness	Joist Spacing	Plywood Thickness	Stud Spacing	Plywood Thickness	Rafter Spacing	
Grain Bin*							
Round	3/8"	12"	1/4", 3/16"	16"	3/8"	24"	12' Height
Rectangular	3/8"	12"	1/4"	12"	3/8"	24"	8' Height
Corn Gilder*	3/8"	12"	3/8"	16"	3/8"	24"	12' Height
Silos*	—	—	1/4", 3/8"	16"	1/4", 3/8"	24"	Glued construction. Double skin bottom half. 18" diameter, 12' high.
Lining	—	—	1/4"	16"	1/4"	24"	Inside wall lining.
Horse Barn	—	—	1/4"	16"	3/8"	24"	—
Stall Partitions	—	—	3/8"	24"	—	—	—
Horse Trailers	—	—	3/8"	24"	—	—	Glued construction.
Calf Barn	—	—	3/8"	16"	3/8"	24"	—
Partitions	—	—	3/8"	24"	—	—	—
Loading Barn	—	—	3/8"	16"	3/8"	24"	—
Milking Barn	—	—	3/8"	16"	3/8"	24"	—
Milk House	—	—	3/8"	16"	3/8"	24"	—
Hog Farrowing House	—	—	3/8"	16"	3/8"	24"	—
Portable House	1/2"	16"	3/8"	16"	1/4"	16"	Glued construction.
Wallowing Trough	3/8"	24"	3/8"	24"	3/8"	24"	Glued construction.
Feeder	3/8"	24"	3/8"	24"	3/8"	24"	—
Pig and Lamb Brooders	3/8"	24"	3/8"	24"	3/8"	24"	—
Poultry House	3/8"	16"	3/8"	24"	3/8"	24"	—
Portable Brooders	3/8"	16"	3/8"	24"	3/8"	24"	Glued construction.
Watering Tank and Trough	1/2"	24"	1/2"	24"	—	—	Glued construction.
Tobacco Curing Barn	—	—	3/8"	16"	1/4"	16"	—
Fruit and Vegetable Storage	—	—	3/8"	16"	3/8"	24"	—
Fumigation Chamber	3/8"	16"	1/4"	16"	1/4"	16"	—
Refrigerators and Freezers	3/8"	16"	1/4"	16"	1/4"	16"	—
Machine Sheds	—	—	3/8"	24"	3/8"	24"	—
Sepic Tank Forms	—	—	3/8"	24"	—	—	—
Chutes and Air Ducts	—	—	1/4"	—	—	—	—
Doors	—	—	1/2", 3/8"	—	—	—	—

*Design of these structures depends on capacity and dimensions. Check with existing plans, especially for adequate nailing and bracing.

MAILING—For most buildings listed above, general plywood nailing recommendations are as follows: Use 6d common nails for panels less than 1/2". 8d common otherwise. Space nails 1/2" in from edge and 6" on centers of panel edges, 12" on inner bearings.

General Marine Co., St. Joseph, Missouri.

Grain Containers, Inc., Los Angeles, Calif.

Hamilton Container Co., Los Angeles, Calif.

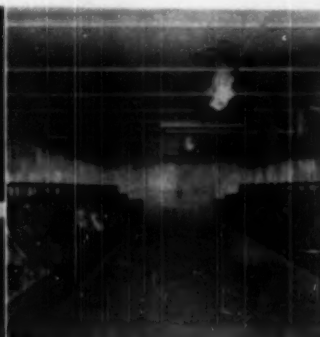
J. F. Meeks Lumber Co., Baton Rouge, La.

Nichols and Cox Lumber Co., Grand Rapids, Mich.

Redi-Bilt Products, Corvallis, Ore.

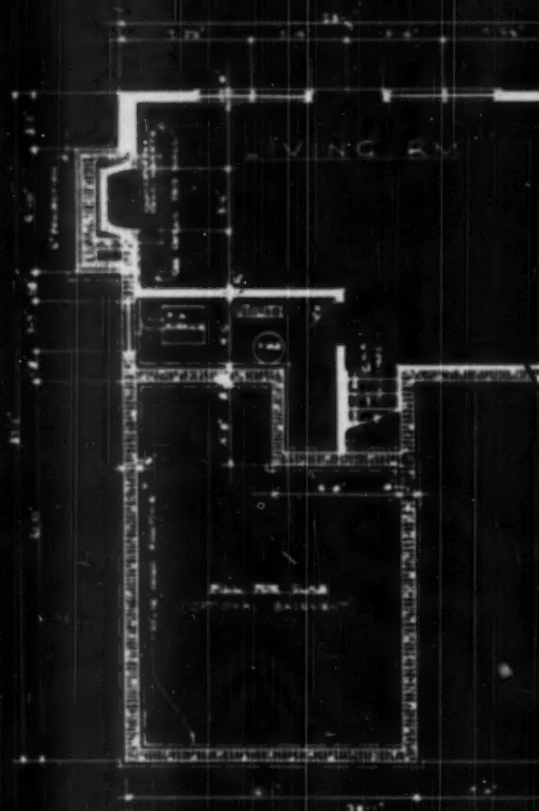
U. S. Homes, Marietta, Ga.

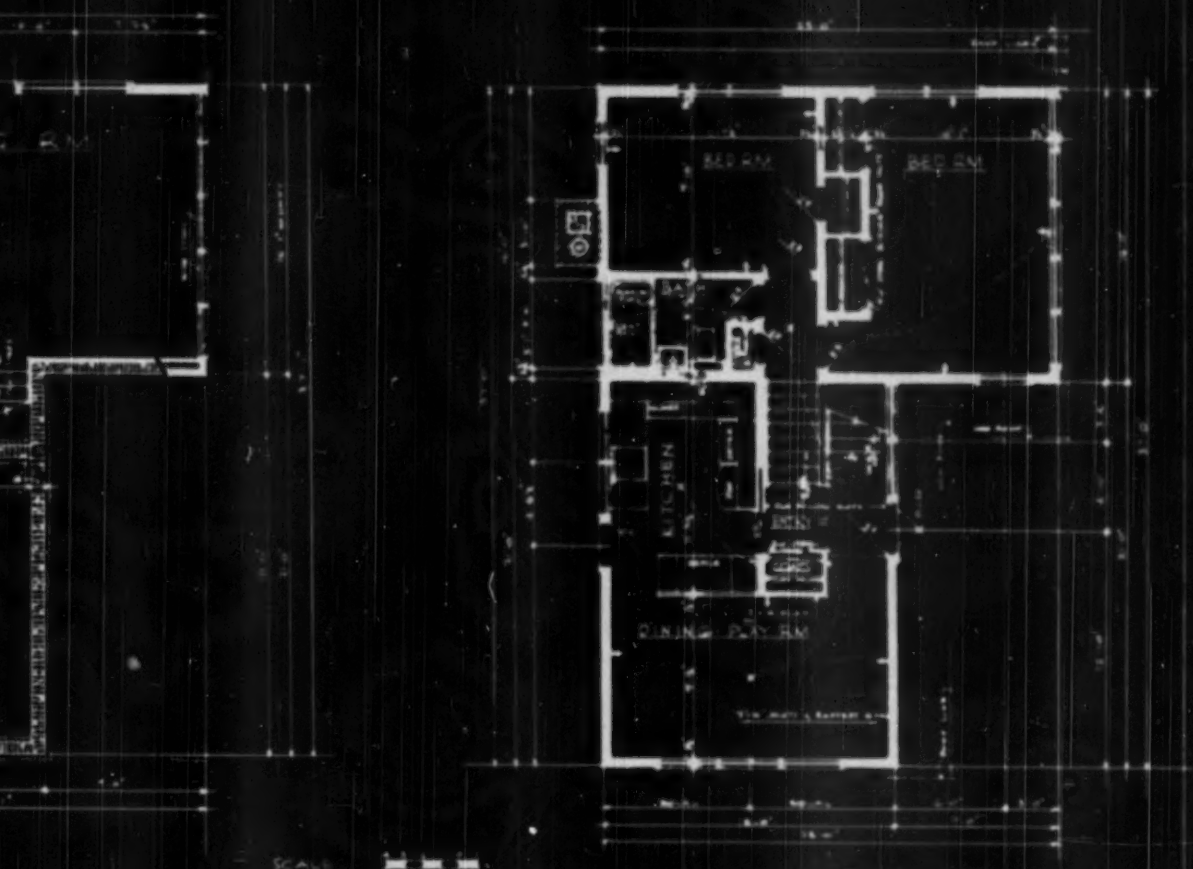
Plywood was used as lining for bins of other materials by other fabricators as well. When CCC issued a call for bids late in the summer, some 32 separate companies included exterior plywood as the principal material in their specifications.



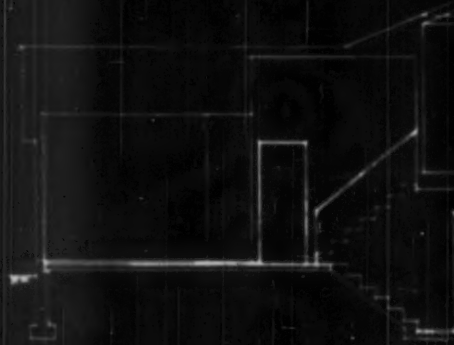
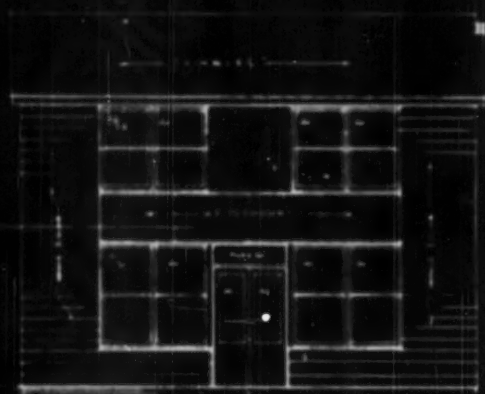
REGARDLESS of where plywood is used on the farm, it should be the exterior type. It is a popular material for use as stock stalls, partitions in buildings and on building lining

IN THIS grain drying and storage structure, three 1/4-inch sliding perforated plywood panels inside an air duct make it possible to direct air flow to any part of the crib where it is needed

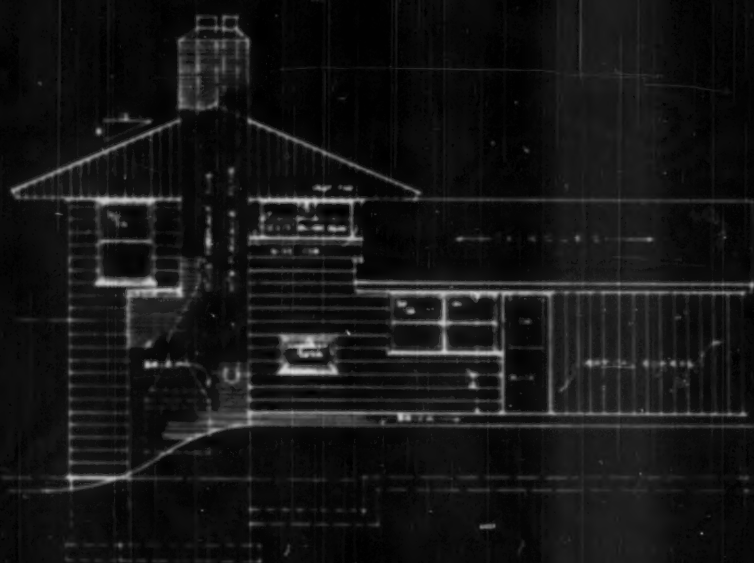




DESIGN NO. A B 150
 AMERICAN BUILDER BLUE PRINT SERIES
 Designed By
 GERHARD W. BRANDHORST, ARCHITECT
 101 Gurrie Ave. Minneapolis, Minn.
 Summers-Bourdeau-Put Corp., 75 W. Monroe St., Chicago, Ill.

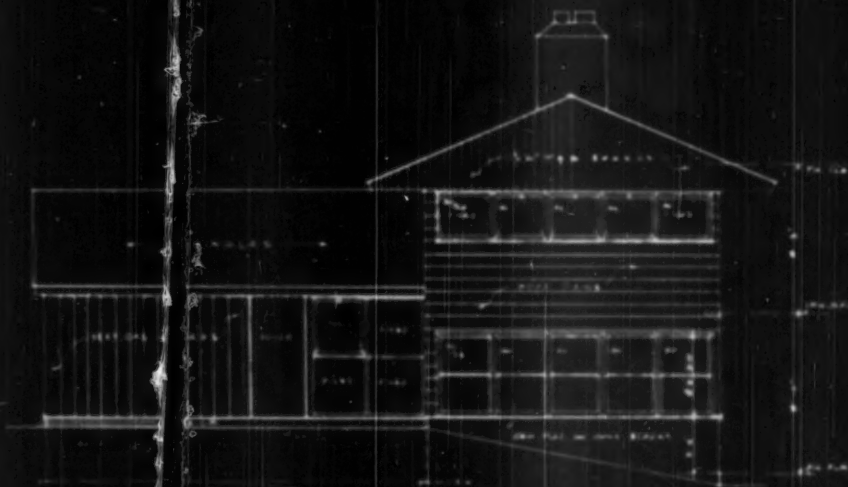
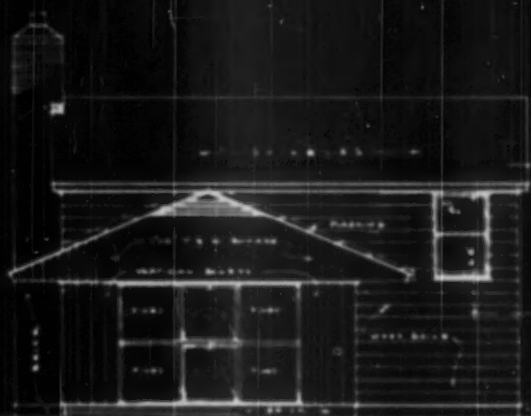


2. DIAGRAMATIC SECTION





SECTION



1/4" = 1'-0"

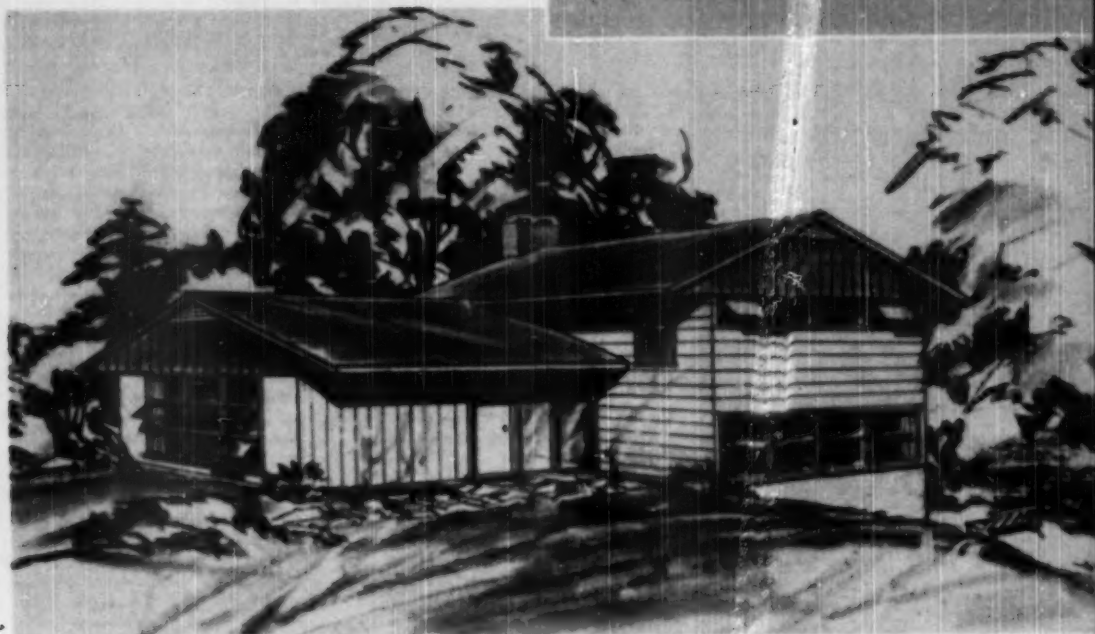
An unusual plan arrangement made possible by the sloping site provides in this house of limited floor area ease of circulation characteristic of larger homes

AMERICAN BUILDER

Blueprint House

Number 37

Gerhard W. Brandhurst, Architect



THIS house presents a one-story facade to the street front and a full two-story appearance to the rear of property

For a Side Hill Site

THE current blueprint house was designed by Gerhard W. Brandhurst, architect, of Minneapolis, Minn. It is a half-step or split-level house so called because it takes advantage of the various levels of the surrounding terrain and adjusts the principal floor levels accordingly. This plan has a tendency to induce economy in construction as well as provide some very interesting solutions to the problems posed by a limited floor area.

Distinct separation of the various zones of living is one of the principal advantages of the half-step house. The trend toward reduction of the square foot area in houses for the average income groups is made necessary to offset rising costs. This results in crowding together the important components of a house, eliminating halls and utilizing main rooms as traffic arteries to provide access to other rooms. This type of

home confines the activities of the occupants to a single area; whereas the split level house automatically provides separation which is extremely essential in maintaining a pleasant family relationship.

Freedom of circulation is another feature of this tri-level home. All rooms are directly accessible from the entrance hall. On the same level with the hall is the dining-playroom and kitchen, which are literally one large room separated by a stub wall in back of range. Because of its size the dining-playroom is a multi-use room where children can play while small, or study when they have grown. From the hall, a half flight down, entrance is obtained to the living room, which room is width of house. Bedrooms are located over living room, a half flight up from hall.

A construction feature is the concentration in one area of roughing-in for plumbing and heating. Pipes for

the kitchen, bath, and utility room are contained in one wall. The duct runs for the warm air heating plant are short and centrally located.

The exterior treatment is a simple expression of the plan with the one-story portion extending out to the street and the two-story wing overlooking the rear yard. Large glass areas are used in walls only where they serve a definite purpose. Extended roof eaves provide shelter from the sun where needed. Horizontal siding and vertical boards are used as facing for exterior walls. Roof is covered with wood cedar shingles. The exposed portion of the concrete foundation around living room is covered with cement plaster.

In the event more storage space is required, the designer suggests excavating the portion under the dining-playroom and kitchen; access to this area is obtained from a half flight of stairs from living room.

The Construction Outlook For 1950

By Herman B. Byer

Assistant Commissioner, Bureau of Labor Statistics
U. S. Department of Labor

AT THIS writing, it is quite evident that 1949 is the best construction year since the war, and in some respects the best in our history. Despite some doubts and hesitation during the late spring and early summer, the momentum of a good start was not lost. All indications point to a continuation of this high construction level during 1950. We still have a large backlog of demand for building, including housing, industrial and commercial structures, and public works. This demand is supported by a huge national income, running currently to well over \$200 billions per year, and large amounts of liquid savings in the hands of consumers. The building industry should be able to plan for its next year's operations with confidence. Barring a major international disaster, conditions should remain relatively stable. I see no prospect for substantial declines in construction costs, but neither do I anticipate sharp increases. The quality and quantity of both labor and materials have improved during the past year and will continue to improve in 1950.

The outstanding building performance of 1949 was the attainment of an all-time record in housing starts. After lagging behind the 1948 pace in the early months of the year, residential construction picked up rapidly, to reach record breaking levels in September and October. When all of the reports are in, I anticipate the final figures will show that close to a million housing units were started, substantially better than the previous peak of 937,000 in 1925 and the 1948 total of 931,300. The past year's housing total includes over 38,000 publicly financed units—not in the picture in 1925. If we exclude the public units, however, I believe we can still say that private industry has set a new all-time housing record.

The past year has been marked by several significant developments in the housing field. Under the stimulus of the liberal insurance provisions in Sec. 608 of the National Housing Act, builders have

increased the volume of multi-family rental units. State- and locally-financed housing has been an important factor, accounting for more than doubled the volume of 1948. Builders have made a real effort to provide low-cost housing, and have had some success, as indicated by the fact that the average construction cost of dwelling units started, according to B.L.S. estimates, has declined 9 per cent since the high point in August 1948.

For all types of construction, estimates for the first ten months of expenditures at current prices indicate a yearly figure of 19 and a quarter billion dollars, an all time high in dollar volume although not in physical volume. (See accompanying table.) Privately financed construction accounted for slightly over \$14 billions, about 73 per cent, and public projects totaled over \$5.2 billion, or 27 per cent. The most important single item was private residential building which accounted for \$7 billion, about 36 per cent of the total. The outlay for residential work was slightly under that for the previous year, despite the increase in housing starts, due to a lower average construction cost and the late season peak which sent a large carry-over of work into 1950. Another important category was privately financed utilities, with \$3.4 billion in expenditures, or almost 18 per cent of the total.

Publicly financed construction accounted for better than a fourth of the aggregate expenditures. Highways again represented the most important segment with schools, hospitals, and other institutional building close behind. Expenditures on military and naval installations continued to decline.

After a careful review of the economic situation, the Bureau of Labor Statistics and the Construction Division of the Department of Commerce have prepared a joint forecast of the probable volume of construction in 1950. Our estimate of expenditures for all new construction is about \$19,250 million, approximately the same as in 1949.

This will also mean about the same physical volume, since we do not believe that building costs will change substantially.

Privately financed expenditures are expected to be about \$13.1 billion, down about 6½ per cent from 1949. A small increase is anticipated for commercial building, spurred by shopping centers and stores to serve new residential developments. Outlays for private hospitals and institutional building are also expected to increase and educational building will probably hold its own. Industrial expenditures are expected to drop again for the third successive year. Here again the most pressing postwar backlog of plant expansion seems to have been worked off. Construction by privately owned utilities will show only a slight decline, with pipe line and gas companies either maintaining or somewhat bettering their 1949 level.

We estimate that about 900,000 dwelling units will be started in 1950, including from 60,000 to 80,000 publicly financed units. I believe this is a conservative prediction and that, with probable continuing favorable economic conditions, we may do considerably better. Psychological factors, which are difficult to predict, have a decided influence on the housing market. There seems little doubt that the potential demand exists. There are unquestionably many thousands of persons who are prospective housing customers and who have the savings and earning capacity to manage home purchase. If employment and purchasing power continue high, as seems likely, and if further drastic price declines appear unlikely many of these families will enter the market. Only a fraction of eligible veterans have taken advantage of their home loan privileges. If rents rise sharply, many families that have been holding off buying may change their minds. Further progress in shifting to lower-priced houses will bring an almost untapped source of new customers into the new home market.

Increases are expected in most types of public construction, with the total figure being around \$6,150 million. Expenditures for public housing will increase sharply from \$220 million to \$400 million but will account for only about 2 per cent of all new construction. Activity under the 1949 Housing Act is likely to be concentrated in the latter part of the year, and its impact on expenditures will not be fully felt until after 1950. Hospital and insti-

tutional building is expected to increase from \$450 million to \$575 million largely as a result of increased activity under the National Hospital Program and from veterans' hospital construction. Highways, roads and streets, which comprise a large part of public expenditures, are estimated to rise to \$1.9 billion, a 15 per cent increase from 1949. Substantial gains

Employment prospects for construction workers during the next year appear excellent.

Union wage rates for building trades continued to rise during 1949. Our index of such rates increased slightly over 4 per cent from July 1, 1948 to July 1, 1949. However, during the preceding year the index rose over 11 per cent. It seems likely that rates will

ESTIMATED NEW CONSTRUCTION ACTIVITY IN 1949 AND 1950*
(Millions of dollars)

Type of Construction	1949 ¹	1950	Percent Change
Total new construction	19,250	19,350	0
Total private	14,825	13,100	- 7
Residential (incl. farm)	7,000	6,500	- 7
Nonresidential building	3,175	2,950	- 7
Industrial	975	725	-26
Warehouses, office & loft buildings	300	300	0
Stores, restaurants & garages	700	725	+ 4
Other nonresidential building	1,200	1,200	0
Farm construction	450	400	-11
Public utility	3,400	3,250	- 4
Railroad	385	350	- 9
Telephone and telegraph	575	500	-13
Other public utility	2,440	2,400	- 2
Local transit	40	40	0
Petroleum pipeline	160	160	0
Electric light and power	1,440	1,350	- 6
Gas	800	850	+ 6
Total public	5,225	6,150	+18
Residential	220	400	+82
Nonresidential building	1,645	1,875	+14
Educational	840	900	+ 7
Hospital and institutional	450	575	+28
Other nonresidential building	355	400	+13
Military and naval	120	100	-17
Highway	1,650	1,900	+15
Sewer and water	540	650	+16
Misc. public service enterprises	90	100	+11
Conservation and development	750	900	+20
All other public	190	225	+18

¹ Joint estimates of the Department of Commerce and the Department of Labor.

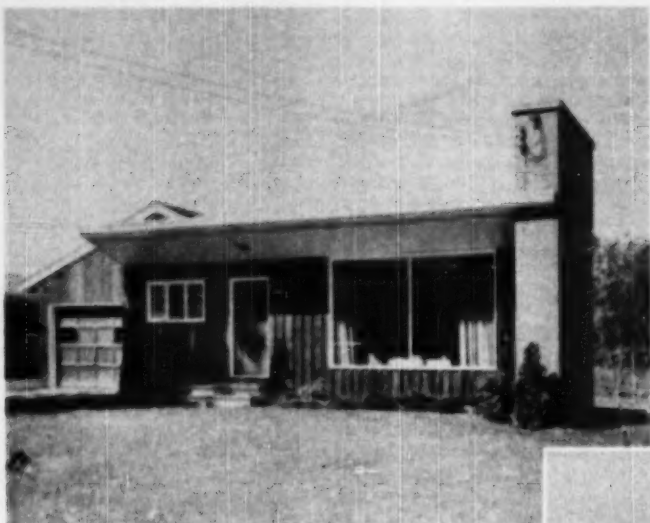
* First 10 months actual; last 2 estimated.

are expected in outlays for water and sewer installations.

We estimate that construction contractors will employ about 2,400,000 workers during August, the expected peak month. This represents only a slight change from the 1949 high which came in September. These figures do not include self-employed construction workmen or those employed by firms whose major activity is not construction, nor workers engaged in maintenance or plant repairs.

inch upward during 1950 as new contracts are negotiated in various areas. On the other hand there is evidence that labor productivity is increasing also. This is difficult to measure objectively but I hear reports from various sources which are almost unanimous in their opinion that efficiency of both labor and management has steadily improved in the construction field. This has partly been made possible by more plentiful materials and an adequate

(Continued on page 142)

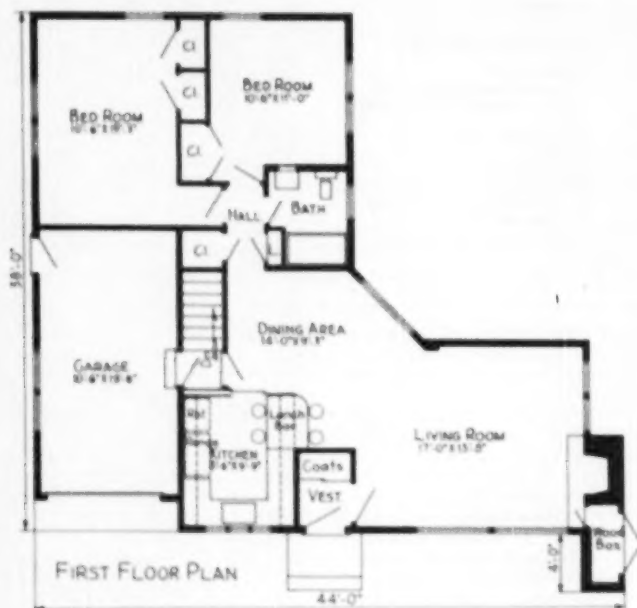


AMERICAN BUILDER Selected Homes

OVERHANG and large picture window serve solar heating function. With garage, full basement and 62x200-foot lot, this home sold for \$13,500

High Quality Homes At Standard Cost

Revere homes bring fresh thinking in practical modern design to Syracuse, N.Y.

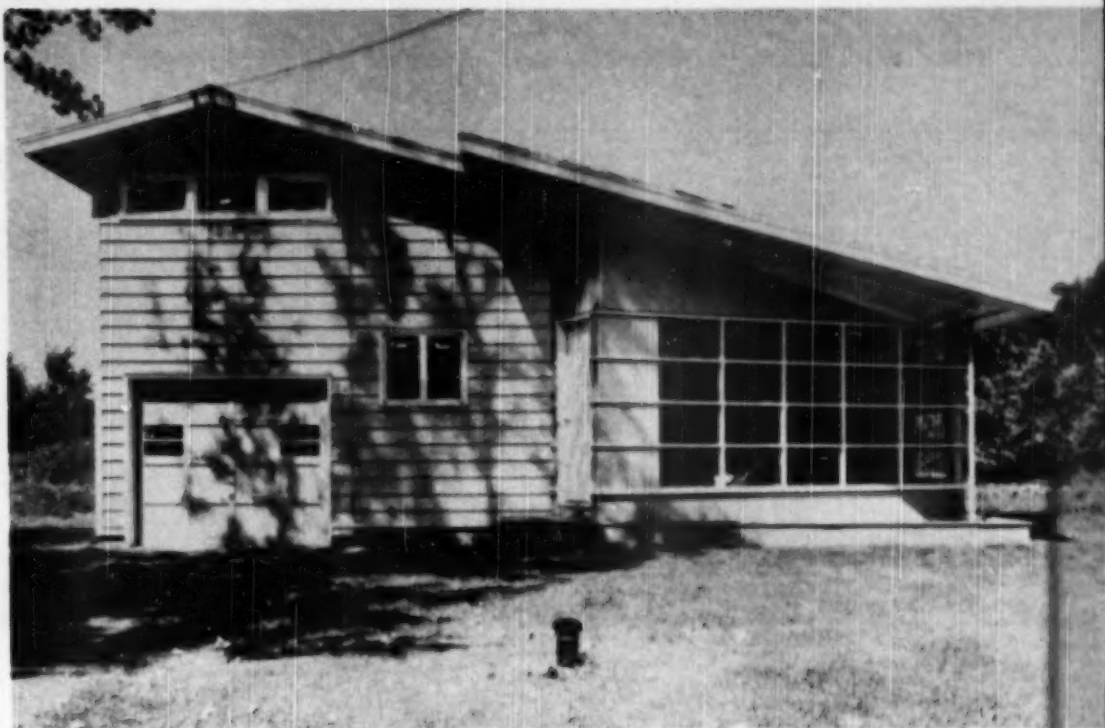


MAIN objective in planning these homes was "to achieve a well-designed house from the inside out at no higher cost than standard so-called speculative houses," and to accomplish this by using "only the best grades of materials, and requiring the finest workmanship."

The four Revere Quality houses, completed in Syracuse, N. Y., were sponsored by the Revere Quality House division, Southwest Research Institute, of San Antonio, Texas. They were designed by Architect Gordon P. Schopfer, and built by Mayer & Rebhahn, Syracuse.

Emphasis in planning is placed on the kitchen, living and dining areas. In the original Syracuse Revere house, these rooms were designed primarily for the family that entertains extensively, yet moderately. A moveable partition consisting of sliding doors opens the kitchen into the dining-living area. This combined area then becomes available for the social life of the family. The sloping ceiling of the living room, and its continuation beyond the large glass windows, creates an appearance of greater space. Overhanging roof is designed to keep the summer sun out of the house, but allow the winter sun to enter.

Large fireplace, wood box and



chimney combination is designed to make wood storage space accessible to the fireplace without necessity of carrying wood through the house. The snack bar in the dining area may be used for informal lunches and breakfast. A large window in the dining section provides an excellent view of the garden. At little expense, this window could be removed, doors put in its place, and an outside terrace constructed.

The standard construction module of 16 inches was used throughout for simplicity of framing. Exterior wood is of Douglas Fir vertical siding, tongue and grooved, either with a V-joint or covered with batten strips. All siding is stained.

Walls and ceilings are lathed with aluminum foil-backed gypsum and finished with sand float plaster except in the bathroom and kitchen. Additional insulation was obtained by using Vermiculite in the plaster base. The kitchen and bathroom are finished with a putty-coat plaster, then painted.

Trim in all the houses is designed and milled so that there are no edges to catch dust and dirt. Copper flashings are used at all intersections of built-up asphalt roofs, as well as over all windows and doors. Copper tubing and fittings are used for all water supply work.

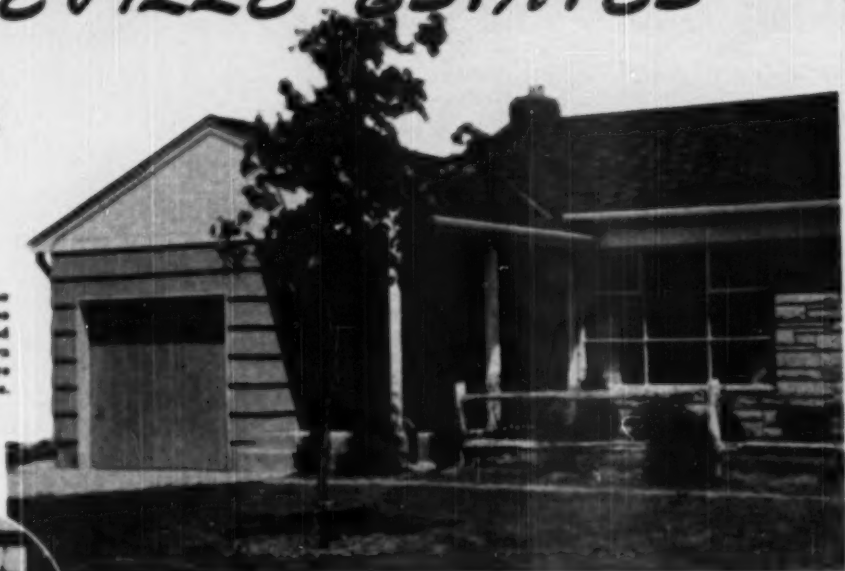
UNFINISHED bedroom over garage is a feature of this Syracuse, N. Y., Reverse Quality house. Unusual angle of living room window wall provides triangular-shaped planting area and soffit under overhang. Steel column supports overhang.



LAKEVILLE ESTATES—

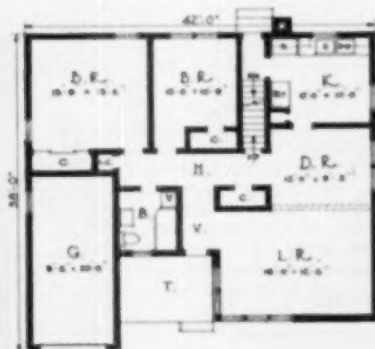
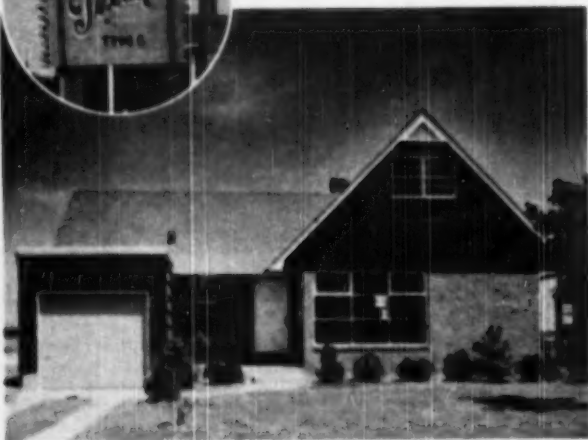


THIS model, titled "The Ardenian," has three bedrooms and is priced at \$15,990. Seeded lawn and basic shrubbery are included in all prices.



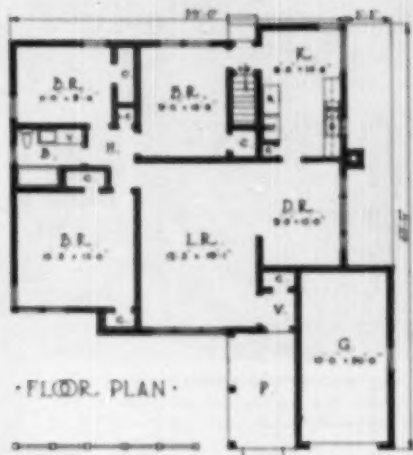
WHEN Klein & Teicholz were planning their new 210-house Lakeville Estates project at New Hyde Park, N. Y. early last summer, they anticipated a continuation of the then prevailing market lag for houses in the \$15,000 to \$17,000 price range. Although the selling problems they anticipated never became serious, they carried out their original plan and erected seven different models of houses to be built in the project and had five of them completely furnished in time for a full-dress showing during National Home Week.

Large billboard-sized signs at important highway intersections in the vicinity of the project directed motorists to the model houses. Large-sized display advertisements in newspapers told of the showing and gave details on the houses with prices and plans. Scale models of the houses were also displayed in the lobby of the Dime Savings Bank in Brooklyn. Kalman Klein, president of Klein & Teicholz, and Walter R. Irons, in charge of sales, kept the models open all through the fall months and had record-breaking week end crowds of home



"THE TEXAN," at left, with an unfinished second floor, sells for \$14,990. House at right, "The Contemporary," with three bedrooms, sells for \$15,190. Tree in front is part of project landscaping plan.

210 Houses from 7 Basic Models



seekers to inspect them. During the first seven weeks the model houses were open, 98 sales were made. That is an average of 14 house sales a week in the \$15,000 to \$17,000 price range.

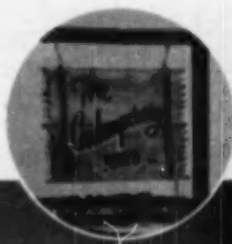
Four salesmen were on the job every day during this first period, with extra help on week ends. Also, during the week end rushes, it was found necessary to have at least one employe in each house to keep the people moving through at a rate which would permit a maximum number of potential buyers to see all its good features.

All of the models were designed by Kalman Klein, whose firm has erected more than 2,000 houses in this project in the last ten years. They range in style from the one-story ranch-type to the story-and-a-half and two-story house. All of the models are proving popular with purchasers. Their prices range from \$14,990 through \$16,990. Veterans can buy them with no down payment.

The houses are located on curvilinear streets with the smallest lots 60x100 feet. A new grade school has just been completed adjacent

to the site and Klein & Teicholz will erect a modern shopping center as part of the project.

Framing for the houses is pre-cut and partially assembled in a small shop. Rafters, studs, joists and headers are all pre-cut. Corner posts and jack studs come to the site





nailed. Built-in wardrobes and bathroom vanities are also made in this same workshop. All this results in substantial savings because of the standardization on all but a few models. Good variation in front elevations on the models, plus good spacing between similar houses in the project, removes any threat toward monotony.

Klein not only believes in quality materials and construction throughout, but he also believes in giving a few "plus" items to buyers of his firm's houses. Every kitchen is completely equipped with refrigerator, range, dishwasher, venti-



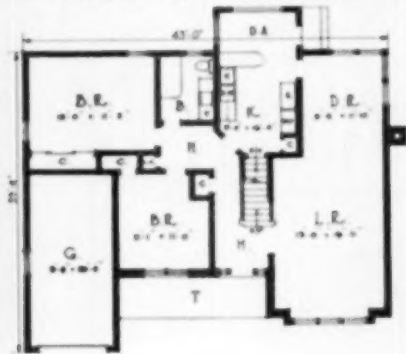
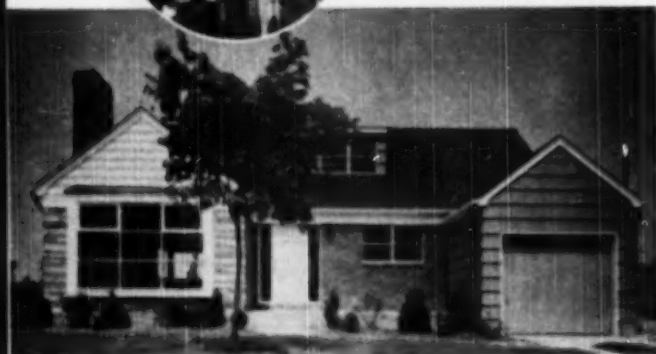
FLOOR PLAN

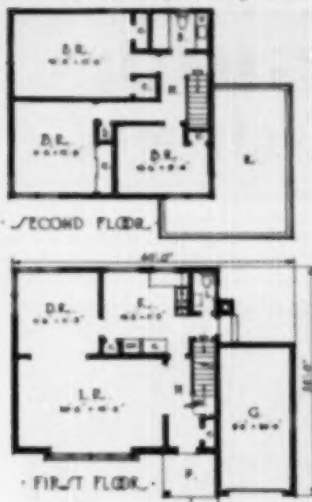


PRICE of this three-bedroom house is \$18,490. Streets in the development are curvilinear with minimum lots 68x100 feet



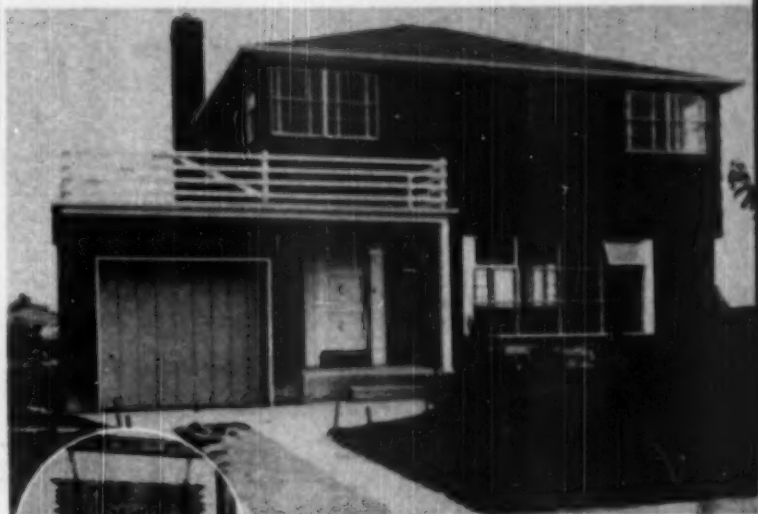
ANOTHER model with an unfinished second floor. Price of this house is \$15,990. All prices quoted include completely equipped kitchens with refrigerator, range, dishwasher, ventilating fan, built-in wall radio and electric clock. Bathrooms are tiled and have built-in vanities, wall mirrors, clothes hampers, infrared and ultraviolet lamps as standard equipment. Door chimes, silent mercury switches, venetian blinds, copper water pipes and copper gutters and leaders are also standard





lating fan, clock and built-in wall radio. Bathrooms have built-in vanities around every lavatory, chrome fixtures, wall mirror, plus built-in clothes hampers and infrared and ultra-violet lamps as standard equipment. Walls and floors in the bathrooms are tiled. Door chimes, silent mercury electric switches, venetian blinds, copper water and heating piping, copper gutters and leaders, and basic shrubbery are other standard features of these houses.

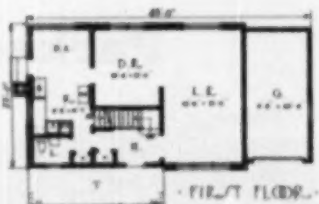
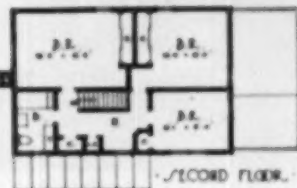
Some of the kitchen cabinets have natural wood finish. In several models, the soffit space above kitchen cabinets is opened with sliding doors to give additional storage space. Sliding doors are also stand-



A TWO-STORY three-bedroom house with one-and-a-half baths, priced at \$18,890

ard on bedroom wardrobe closets.

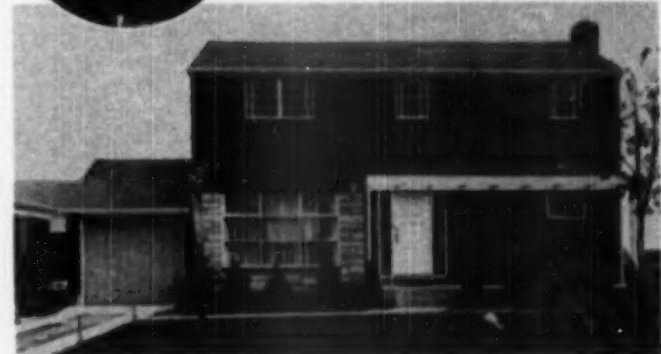
Each house has a two-pipe hot water baseboard and convector heating system with individual feed and return for each radiation unit. Klein finds this system gives faster heat and also less friction loss. The hot water boilers are oil-fired.



THIS model, titled "The New Yorker," is the other two-story house and sells for \$16,990. All these models are heated with a two-pipe hot water radiant baseboard and convector system with individual feed and return for each radiation unit.

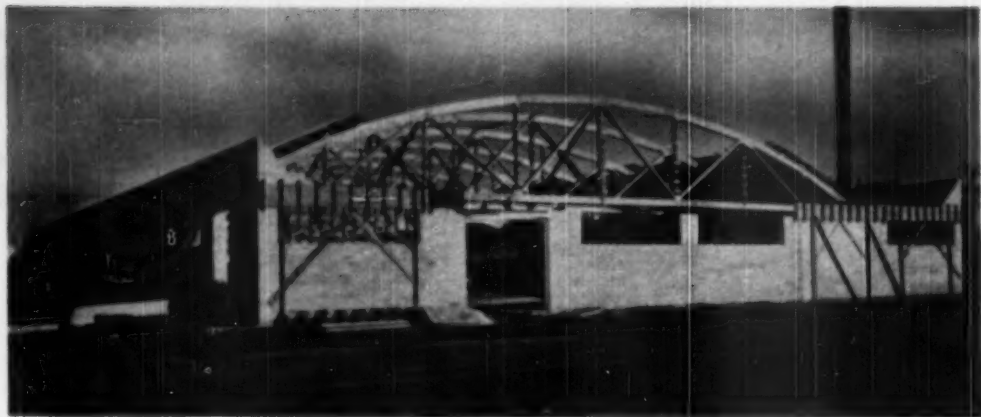
BRANDED PRODUCTS USED IN LAKEVILLE ESTATE HOUSES

Bell & Gossett circulating water pumps
 Briggs bathroom fixtures
 Chase copper piping
 Colorite siding shingles
 Federal hot water boilers
 Formica counter tops
 Fasco ventilating fans
 Flax wall radios
 General Bronze windows
 G. E. refrigerators, ranges, dishwashers
 G. E. silent mercury switches
 Gliderway garage doors
 Master Woodworking cabinets
 National bathroom cabinets and hampers
 Parke hardware
 Revere copper piping
 Tuttle & Bailey convectors
 Telechron clocks
 United bathroom cabinets
 Vulcan baseboard heating
 Yale & Towne hardware





TECHNICAL GUIDE for Builders and Craftsmen



CONSTRUCTION view of type of building that can be erected with clear-span trusses

Packaged Timber Trusses



MEMBERS come in packages from mill and are assembled on site



ERECTION of truss with local equipment and crews is easy

The Monocord Truss is an accurately engineered, ready-to-use product, making possible the economical erection of clear-span, post-free buildings

TRUSSES shipped unassembled from the mill in complete packaged units, including hardware and steel bracing, are finding ready acceptance as the demand for clear-span, post-free buildings increases. These packages are plainly marked to correspond with the identification shown on the assembled drawings. All members are accurately engineered, cut, and prepared in the mill from selected timber stocks and then shipped to the site for assembly. The Monocord Timber Truss enables a builder to quickly assemble and erect trusses in position on the building with his own crews and equipment.

The standard six panel Monocord Bowstring Truss can be obtained in over-all lengths of from 28 feet to 72 feet at two foot intervals, except where a pattern group indicates there is a one foot differential. The standard eight panel Bowstring Truss comes in 73 feet to 102 feet over-all lengths, with the same intervals as noted for the six panel truss.

All trusses have single, solid timber members from one panel point to the next or longer pieces extending through

several panels. Members are fastened with bolted steel plates on both sides. Two shear plates are used between plates and timbers for additional strength. Standard trusses are designed for a 30 pound live and 10 pound dead load. This is increased from the normal 20 pounds per square foot for live load required by code to meet, where necessary, extreme climatic requirements. Where a fiber board or plaster ceiling is contemplated, an increase of about 10 pounds per square foot is made in the dead load requirement.

An installation that has the roof joints placed 24 inches on center on the upper chord of a Monocord Truss is referred to as a uniformly distributed load condition. Where heavy purlins are located at the panel points, the loading is referred to as panel point-loading. This loading condition requires a slightly heavier upper chord. A small angle iron is generally specified (called purlin clip) to bolt the purlin to truss. Another type of loading is called "purlin loading," with purlins spaced exactly 6, 8, or 10 feet apart upon which is placed a two inch center-matched decking in specified lengths. This condition also requires angle iron for purlin clips.

The reason for doubling concentrated loads is that if concentrated load is in center of span, the strain on truss is exactly twice as great as if the same number of pounds were evenly distributed over entire length of upper chord. If concentrated load is at quarter point, strain would be less than mentioned above. Where buildings are large, and concentrated loads are heavy, additional technical data can be obtained to simplify planning and figuring.

"Ledgers" frequently called "ribbons" are 2x3 inch members nailed to the side of top chord of truss with 20d nails every eight inches to form bearing for roof rafters.

"Ledger blocks" are 2x6-inch members, 14 $\frac{1}{2}$ inches long, nailed to the side of the lower chord of truss. Ceiling joints are then nailed into the end of these blocks and also into the truss member.

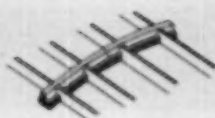
"Lower chord splice"—Shear plates are seated in timber to develop full strength. A steel plate is placed over group of shear plates to transfer tension load from one member to the other.

"Upper chord joint"—Shear plates in position. Dotted lines indicate location of steel plate.

"Gable end nailers"—A 3x8-inch nailer is bolted to inside face of gable wall upon which roof joint rests. Upper edge of nailer is sawed on a curve to correspond to upper truss chord.

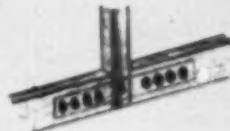
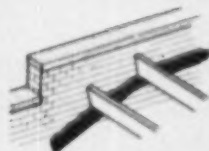
"Heel connection"—The upper cord is seated in a pocket created by the steel U-strap. The U-strap is fastened to the lower chord with proper number of shear plate connectors.

"Bowstring Truss"—Radius is approximately equal to length. Center height, approximately $\frac{1}{4}$ of length. Length of arc, top chord, approximately 1.047 times length.



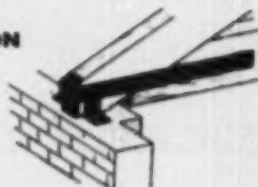
LEDGER STRIPS

LEDGER BLOCKS

LOWER
CHORD SPLICEUPPER
CHORD JOINT

GABLE END NAILERS

HEEL CONNECTION



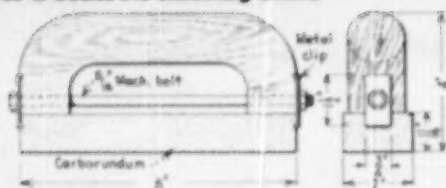
Data and illustrations courtesy of Weyerhaeuser Sales Co., Tacoma, Wash., St. Paul, Minn., Newark, N. J.

THE motor equipment building shown at right indicates the wide variety of design obtained through the use of Bowstring shaped, clear-span trusses that provide post-free interiors with flexibility of floor arrangements



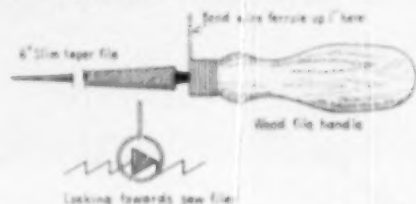
TECHNICAL GUIDE for Builders and Craftsmen

How to Make a Wood Handle for a Concrete Rubbing Stone



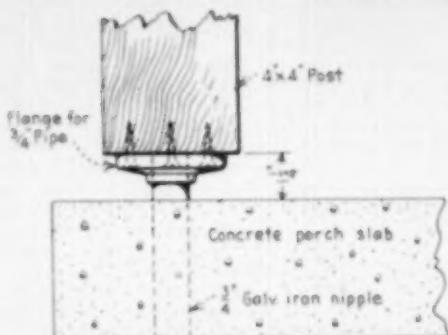
THIS type handle will permit the workman to apply more pressure when rubbing the carbide stone on the concrete. It will also prevent bruising the fingers and knuckles on the hand. The material can be any tough wood such as hickory, maple, or oak.—Submitted by C. D. Robb, Frankfort, Ohio.

How to Avoid File Rolling



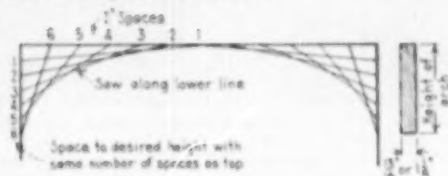
THE tendency when filing saws is to roll the file. This can be eliminated by purchasing a wooden handle with a ferrule made of wire. Straighten out one inch of the wire ferrule and bend straight up. When starting, set file in saw gullet and rotate ferrule until straight wire is pointing directly upward.—Submitted by J. G. Caldwell, San Mateo, Calif.

How to Keep Porch Posts from Rotting



SECURE threaded iron flange to underside of porch posts and tightly screw into iron nipple unbedded in concrete at time slab is poured. Top of nipple which extends above slab is threaded to secure to flange. Flange and nipple are painted to prevent rust.—Submitted by C. D. Robb, Frankfort, Ohio.

How to Lay Out an Arch



BY following the diagram shown above a hyperbola arch can be laid out quickly and accurately.—Submitted by D. L. Young, Decatur, Ill.

HOW TO DO IT * HOW TO DO IT * HOW TO DO IT * HOW TO DO IT * HOW TO DO IT

No. D-62 ... Hanging Shelves .. Mantel .. Cabinets

THE design of the built-in features in today's houses leans toward broad, plain surfaces with a minimum use of mouldings. This month's detail plate and photograph show a room end feature that illustrates this type of design. The entire assembly, comprised of fireplace, cupboards, counter and book shelves, reflects a proportional balance that is in harmony with either modern or period furniture.

In the illustration, the combination of units is placed on the long side wall of the room. Its position in relation to the room is incidental. It can be just as effective if placed on the short wall of the room. The broad horizontal lines of counter and book shelves are picked up and accentuated by the continuous flat wood member that forms the division between wall and drop ceiling.

The dark red brick-facing and hearth of the fireplace are laid up in a simple bond. Sides and floor of fireplace opening are lined with firebrick. The strong color of brick is in contrast to the blond finish of the adjoining exposed woodwork. Mortar joints are white.

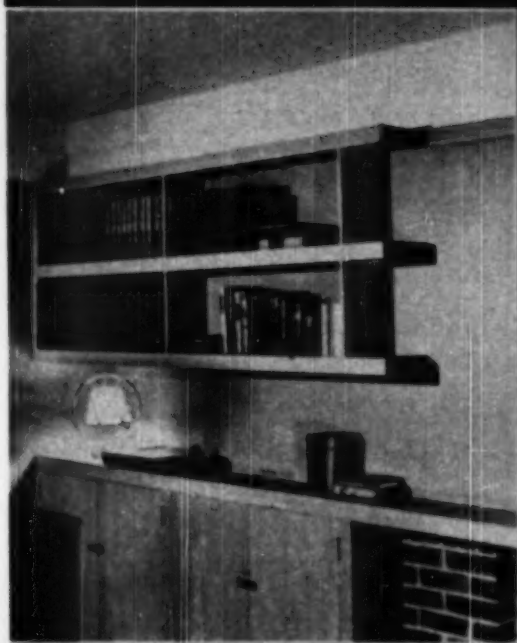
The shelves for books are detailed showing built-up members with a two-inch face. An alternate method using a $\frac{1}{2}$ -inch-thick shelf with a $\frac{1}{2}$ x 2-inch member secured to face of shelf would give a similar effect but with a reduction in cost. The two-inch toe space at bottom of cabinet provides an unobtrusive position for electric outlets as well as eliminates scuffing the cabinet surface.

The color scheme of the room is a planned study in contrasts. The blond-finished birch trim throughout accentuates the cocoa-brown finish on the plaster walls. The ceiling and drop ceilings are finished in light ivory. The dark red of the fireplace brick adds the final touch of interest.

This type of built-in lends itself well to new work or modernization. The clean lines of the cabinet doors and adjoining members with an absence of projecting mouldings complements any type of good furniture that may be placed in the room. This type of design can be classed as functional.

AMERICAN BUILDER'S BETTER DETAIL PLATE

Designed by R. J. Alexander for American Builder

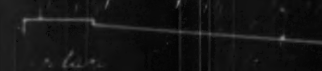
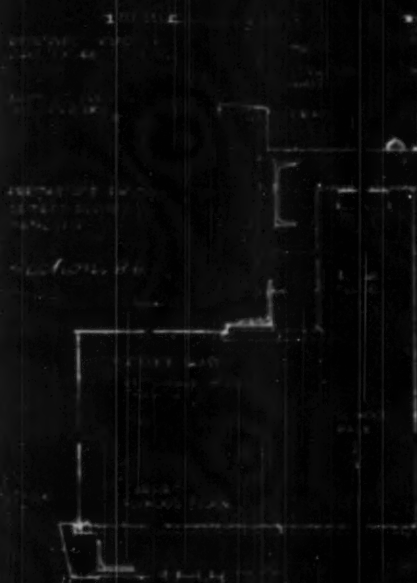


AMERICAN BUILDER'S STORE FRONT DETAILS

Designed by Louis J. Glavin for American Builder

170 G. 3 - SHOW-UP-THROUGH-CONSTRUCTION

ASBURY
Youth Center



FIRST STEP to Security

By R. L. Taber

AT THE BEGINNING of what promises to be one of the most competitive years in our commercial history it is interesting and encouraging to note that the housing industry is well up front in the race for the consumer's dollar.

Furthermore, there is plenty of evidence abroad in the land to indicate that it doesn't propose to take a back seat for any other industry when it comes to making it easy for prospects to buy homes.

Should there be those who disagree with these conclusions we recommend a studious reading of the page-after-page of interesting advertisements now appearing in practically all metropolitan newspapers. Here will be found innumerable offers and terms that prove conclusively it is now as easy to buy a new home as it is to purchase a new automobile.

This is no mean achievement since the price of a home is three or four times as much as the price of a new car.

Nothing is more important to the nation than what goes on in residential construction. 1948 went down in history as one of our biggest home building years. Same way with 1949. Question of the hour is, what will happen in 1950? Here are some predictions gleaned from various sources that cast a rosy hue on the outlook.

5-YEAR DEMAND: Aggregate demand in the five years beginning with 1949 is 7 million homes based on all those who have definitely said they plan to buy or build and one half of those who said they probably would do so. It does not allow for formation of additional families.

REPLACEMENT: Census Bureau reports more than 5 million housing units are 50 to 70 years old and another 11.4 million were built 30 to 50 years ago. All are ripe for replacement.

PREDICTION FOR '50: Thos. A.

Holden, President, F. W. Dodge Corporation, "It is difficult to see where construction market conditions in 1950 will be radically different than have prevailed in '49."

COST: In '39 it took a man's average earnings for 206 weeks to buy a home. Today it takes 183 weeks.

So far so good. Now for some facts and figures pertaining to home ownership as it exists today in the land of the free and the home of the brave. They are vastly significant.

Twenty million non-farm families in the U. S. now own homes, leaving slightly less than 18 million families paying rent in the non-farm group. Six million bought their homes from 1940 to 1945. Another 6 million bought them since 1945. Four million were purchased in the 30's and 4 million in the years prior to 1930. This means that 16 million families have bought homes since 1930!

Of the 6 million families who purchased homes since 1945, 3 million moved from rented quarters and one million had been living with someone else. Two million owned their homes before.

The 20 million homes have an aggregate value of \$180 billion. Average value, \$9,000. Fifty-five per cent are mortgage free. Mortgage debt on the remaining 45 per cent is \$32 billion. Average mortgage, \$3,700. Average equity for all owners, \$6,500 to \$7,000.

Compared with any other nation on this terrestrial globe we are doing mighty well when it comes to owning

the homes we live in and it is this all important factor that establishes the hope for our continued existence.

The family that has purchased its cozy, convenient, little home and is increasing its equity with each monthly payment needs little propaganda to keep it sold on our American way of life. It no doubt is too busy enjoying the many delights that accrue to home owners to listen to those who espouse fantastic "isms" of various sorts. It may even be they are so happily engaged in earning their own security that they do not hear the siren songs of those who promise security to all without benefit of hard work or any other of the several ingredients that must be present if such a highly desirable situation is acquired and maintained.

Nineteen forty-eight and 1949 were indeed notable years in the annals of approximately two million American families who decided to become their own landlords.

Naturally, there are those who decry the rapidity of this amazing shift in the direction of home ownership. They claim that the equity is too thin and that paying for a home under today's liberal terms is nothing more than paying rent. Such being the case, they say, what will prevent these cautious families from moving out whenever they encounter a house they like better?

Undoubtedly, there will be those who will slip out from under their agreements (or attempt to do so) and

(Continued on page 148)

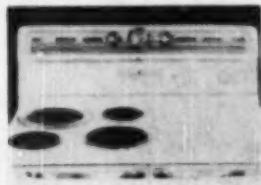


NEW PRODUCTS

Offered by Manufacturers

ELECTRIC RANGE AB15087

Two top models in General Electric's 1950 range line feature a new astro high-speed surface cooking unit. Calrod element in 6 1/2-inch cooking unit permits fast cooking start, yet supplies same controlled heat in the cook position that has proved satis-



factory on this size cooking unit heretofore. Ranges with the new unit are the Stratoliner, a single-oven model with built-in pressure cooker and a raisable unit in the deep-wall position, and the double-oven Liberator. Both ranges have transparent push-button controls. Four standard-sized ranges and two apartment-house models complete firm's line. General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

PACKAGED WARM AIR HEATING UNIT AB15016

Km-Z-Aire 70 GG, a packaged warm air heating unit, is shipped completely assembled and ready for installation. Unusually compact in design, the gas-fired gravity unit is especially suitable for small, low-cost homes. It has an input of 70,000 B.T.U.'s and is A.G.A. approved. May be installed in either new or older homes at little cost. It is designed that a blower unit may be installed at any time to form a modern, forced warm air heating unit. Jones & Brown, Inc., 439 Sixth Ave., Pittsburgh 19, Pa.

MACHINE OF MANY USES AB15018

With different attachments, over 125 wood-working applications can be done with this radial type woodworking machine. Improved Delta Multiplex engineering design utilizes two circular movements, working at a center pivot position above saw table.



It is possible to locate motor power unit at any position above table, and any kind of rotary cutting tool can be quickly attached to motor spindle. The Power Tool Div., Rockwell Manufacturing Co., 600 E. Vienna Ave., Milwaukee 1, Wis.

GRAVITY GAS FURNACES AB15010

Model GR-2-G Mor-Sun gas-fired gravity furnace has a B.T.U. input of 80,000, and bennett output of 80,000. Over-all height of the furnace is 62 1/2 inches; width is 36 inches; depth, 27 inches. Constructed of heavy-gauge steel and welded seal-tight.



there are no hot spots, no cold spots. They meet the A.G.A. requirements that no part of the heating surface exceed 875 degrees and no part be less than 178 degrees in temperature after twenty minutes of operation. Gas burner is a single port, non-clog type. Unit is completely automatic. Morrison Steel Products, Inc., 601 Amherst St., Buffalo 7, N. Y.

GARAGE DOORS AB15015

No. 908 upward-acting garage doors, shipped from factory with all pre-tested hardware mounted, feature easy installation, new designs and glazing to meet size and architectural requirements. Doors are made of Ponderosa pine, with 3-ply fir



panels 1/4-inch thick. Of dowel pin construction, with two 1/2x1/2-inch oak dowel pins to each joint. Door sections come in equal widths and are specially rabbeted so that rain and moisture will drain out instead of remaining in the joints. Doors are shipped in a crate with hardware and cable. Track and springs are packed in a second crate. Doors are toxic treated with a solution approved by the N.D.M.A. Installed, the doors offer finger-tip fitting. National Manufacturing Co., Sterling, Ill.

INSULATING BUILDING BOARD AB15025

Primed Greytite, factory-primed asphalt treated insulating building board, may be quickly and economically painted with standard oil paints. Coverage of 400 square feet or more per gallon of paint is possible



with a good quality oil paint. Manufactured in 1/2 and 3/4-inch thicknesses and in sheets four feet wide and from six to twelve feet long. Can be used for both exterior and interior applications. Insulite Division of Minnesota & Ontario Paper Co., 808 Baker Arcade Bldg., Minneapolis 2, Minn.

STRUCTURAL GLASS WINDOW SILLS AB15004

A complete line of standard Carrara structural glass window sills offered by this firm in shades of black, white, gray, ivory and tranquil green in 1 1/4-inch thicknesses. In all these colors except green, sills will be offered in 1/2-inch thicknesses. Carrara sills are especially recommended for use with steel casement windows because of their ability to withstand the effects of condensation and other forms of moisture. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

WINTER AIR CONDITIONER AB15002

New 492 Series, oil-fired winter air conditioner, is available in two capacities: 63,000 and 80,000 B.T.U.'s at the register. Features include maroon and gray semi-slip joint



cabinet; large, heavy gauge welded body; taller-made burned refractory combustion chamber; Range mounted oil burner; powerful radiant blower. Unit performs in accordance with National Warm Air standards. Thatcher Furnace Co., Garwood, N. J.

NEW TRUCK LINE AB15009

New and expanded line of trucks offered by this firm comprises 356 basic gross vehicle weight models. The largest truck in the B-2 series is the VA-136 model with a rating of 23,000 pounds gross vehicle



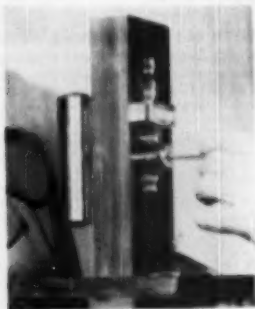
weight, and 40,000 pounds gross combination weight. This model is offered in five wheelbases. It has a 331-cubic-inch engine, sodium-cooled exhaust valves, silent helical 5-speed transmission with overdrive in fifth available, cyclebonded brake linings, a new electrical system which assists in improved engine performance, and many other new features. Dodge Div., Chrysler Corp., Detroit 31, Mich.

SHAPER CUTTER AB15001

To make regrinding easier and more fool-proof, each Buice-Crane Tru-Form shaper cutter is now shipped in a special carton with a unique Check-Chart or grinding template for that particular cutter. The Check Chart simplifies the angular measurement of the ground face during re-sharpening so that any novice can do a perfect regrinding job. User matches ground face to the Check-Chart and easily makes proper re-sharpening setting. Firm maintains that angular relationship involving clearance and free-cutting qualities are maintained for the life of the cutters if face grinding is accurately done by user. Buice-Crane Co., 986 Central Ave., Toledo 6, Ohio.

NON-ELECTRIC DOOR CHIME AB15024

The "Greater" door chime needs no wiring, and can be used on any door up to 2 1/4 inches thick. Requires only the drilling of a half-inch hole. Of solid brass construction throughout. Sounds pleasing musical



note when knob is pulled and released. When installed, brass name plate and pull-knob are on the outside of the door, and chime assembly with brass tone bar and resonator are located on the inside. Ideal for small homes and apartments. Natone, Inc., Madison and Red Bank Roads, Cincinnati 27, Ohio.

HINGE BUTT ROUTER AB15003

Stanley-Carter HBB Hinge Butt Router is light weight, with 1/2 H.P. rating. Makes perfect mortises for the firm's round corner hinge butts at high speed. Stanley-Carter T3 Template guides the router when making recess cut, and produces tight fit for the hinge, with a 1/4-inch radius cut so that no hand work is necessary. Use of this router



and firm's hinge assures good hanging doors because doors are held by the recess and not by the screws. Screws simply hold hinge fast in place. Same template, same setting and router are used in cutting recess in jamb. Threading on motor casing allows adjustment of 1/16-inch for each complete turn of the motor. Stanley Electric Tools, New Britain, Conn.

FLUSH VENEER DOOR AB15020

Weldwood flush veneer door, with solid lumber staved core, is available in large variety of popular species of hardwood face veneers and wide range of sizes. Care-



fully assembled core is made up of kiln-dried hardwood lumber, laid on edge in staved construction. Door may be used for interior or exterior installation. United States Plywood Corp., Weldwood Bldg., 65 W. 44th St., New York 18, N.Y.

WINDOW CONTROL SPRING AB15012

The Quik-Window control, stainless steel window control spring, may be installed without tools, nails or screws. It is slipped in between the sash and jamb, and is held by permanently imbedded prongs. Window does not have to be removed. Acts as good replacement for a broken sash cord or to cut cost on new installations. One control needed for each window section. Ideal Brass Works, Inc., Dept. G, 280 E. 8th St., St. Paul 1, Minn.

CIRCULATING PUMP AB15011

"B&G 7E" booster circulating pump has three-quarter inch flanged connections, and employs the use of two-bolt flanges, the joint construction of which permits tightening with little more than finger pressure.



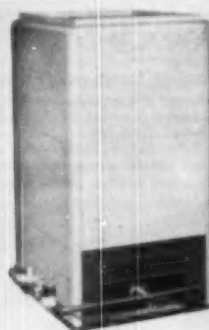
Flanges are forged steel and non-breakable. Uses 1/16 H.P. motor. Light in construction, making installation easy and compact. Oil lubricated. Quiet in operation. Bell & Gossett Co., Morton Grove, Ill.

ADJUSTABLE COLUMNS AB15021

Perma-Tube, plastic-coated steel tubing, is now available to dealers, jobbers and contractors in both adjustable and non-adjustable steel columns or posts for home and industrial use. Comparable to aluminum in appearance and ability to resist corrosion, but has strength and rigidity of welded steel tubing. The 12-gauge, 4-inch O.D. size used in the Shrub post is certified to support more than 20,000 pounds. This adjustable steel post is produced in lengths of 6 feet 4 inches, and 7 feet 6 inches, each with an adjustable range of two inches above and two inches below its normal length. May be drilled, machined or sawed like any other steel pipe. Jones & Laughlin Steel Corp., Pittsburgh 30, Pa.

GRAVITY GAS FURNACE AB15013

New Type 111 gas gravity furnace is 28 1/2 inches wide, 51 inches high and 26 1/2 inches deep, and may be transported through almost any door. It has a heavy, welded-steel heat exchanger with a square radiator connected to eliminate expansion and contraction strain or noise. Free-float-



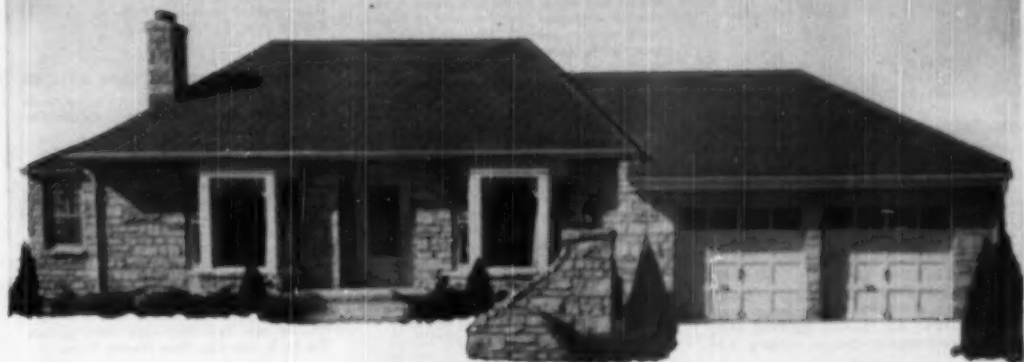
ing corner baffles in radiator divert products of combustion up and down to create whirling action and provide greater heat extraction. Updraft design. Burner manifold, with controls, is external to the unit, compactly arranged adjacent to it. Solid base with leveling screws eliminates necessity of concrete setting or grouting. Self-generating controls are available to elim-

(Continued on page 124)

Weather or not . . .

RO-WAY OVERHEAD TYPE DOORS

operate smoothly, easily



Let it rain or blow, freeze or snow . . . a Ro-Way Overhead Type Door takes the weather in stride. No matter what the elements, it's always "easy up, easy down" with a Ro-Way . . . and here's why:

Protected when opened. It's "up and inside" when a Ro-Way is opened—always protected from sun and rain. Inner surface never exposed.

Windproof. Up or down, a Ro-Way Door just laughs at the wind. Can't be blown open, can't be banged shut.

No snow problem. With a Ro-Way Overhead Type Door there's never any snow to shovel before it can be opened. Glides right up—even with a heavy drift against it.

Answer to frost-raised floor. Even with a floor heaved up by frost, a smooth-rolling Ro-Way is easy to close.

Moisture-swelling doesn't stop it. Sometimes jambs or sections become swollen by moisture—yet operation of an easy-acting Ro-Way is unaffected.

Weather or not—a Ro-Way works. And that's what the man likes . . . the man who owns one. Specify Ro-Way—the winter-proof garage door—for all residential garages.

Also available for commercial and industrial installations.

ROWE MANUFACTURING COMPANY
750 Halton Street Galesburg, Illinois

LOW HEADROOM PROBLEM? Our Model 21 requires only 2½ inches of headroom! . . . Write for details.

There's a RollWay for every Doorway!

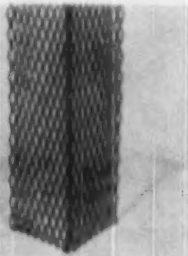


Nationwide sales and installation service.
See your classified telephone directory for names and addresses of Ro-Way Distributors.

into extra cost of wiring to the house current. A.S.A. approved for all fuels and for high altitude installation at full rating. L. J. Mueller Furnace Co., 2006 W. Oklahoma Ave., Milwaukee 15, Wis.

CORNER LATH AB15006

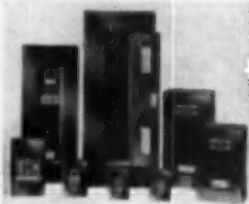
Ex-Trans corner lath has smooth-edge construction for easy and safe use. Prevents injuries to the hands, and lather can apply



lath quickly. Formed with extra strand of steel at the corner, it provides great strength where it is needed most. Available in 2 x 2-inch and 3 x 2-inch sizes in 96-inch lengths. It is packed in bundles of 600 feet. Wheeling Corrugating Co., Wheeling, W. Va.

MULTI-BREAKER LINE AB15022

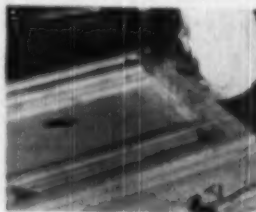
Complete new Multi-breaker line to handle from 1 to 42 lighting and appliance circuits features the Thermo (coilless) Magneto Multi-breaker design, ranging from



single circuit MO-1 up through the MO-2, MO-4, MO-8, MO-12, MO-20 and NMO Panelboard. The MO-1, MO-2, and MO-4 cover circuit requirements for small homes. Multi-breaker unit on MO-1 and MO-2 (single and 2 circuits) is mounted on box cover to make wiring easier. Square D Co., 6060 Rivard St., Detroit 11, Mich.

HOLLOW CORE FLUSH DOOR AB15017

True hollow core, flush type door incorporates four wires within the frame that bear all twisting and warping stresses, and prevent door from warping. Hollow screw



fittings and metal plates hold wires in permanent alignment. Face sheets of Maine birch veneer provide attractive appearance, while patented fibre core prevents warping or ripple from showing through surface. If necessary, door can be adjusted to conform to misalignment that may occur in buildings after door is installed. Kennecott, Inc., True Door Div., Bingham, Maine.

RADIAL POWER SAW AB15023

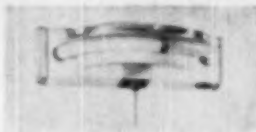
New version of the Comet Clipper radial power saw offers versatility in making all cuts. Portable. It offers safety through its newly designed blade guard with adjustable saw dust chute. Saw has longer re-



tractable arm, assuring greater cutting capacity. Raising and lowering assembly handle is conveniently located in front of machine within easy reach of operator. Cutting capacities up to 20 inches of 4-inch thick material with ripping capacity up to 35 inches wide. Consolidated Machinery and Supply Co., Ltd., 2029-33 Santa Fe Ave., Los Angeles 21, Calif.

MANY-PURPOSE FIXTURE AB15014

Homcraft sidewall fixture may be installed above medicine cabinet in bathroom, above the sink in the kitchen, in the work-



shop for side lights in hotels, hospitals, or in other applications in home, office and institutions. Incorporates Westinghouse "Circular" bulb. Fits flush to wall. It is 14 1/4 inches long, 4 1/2 inches wide, and 6 1/8 inches deep. Sturdy construction. Chrome center strip. No riveted parts. Homcraft Electronic Products, 1208 S. Kedzie Ave., Chicago 23, Ill.

LETTER BOX INTERIOR TRIM AB15008

No. 627 1/2" covered back plate, an outstanding design in letter box plate interior



trim, neatly covers the mortise and dresses up the inside of door. It eliminates the need for hooded plates. For use with Weather-Tite or new Push-Thru type front plates. The H. B. Ives Co., New Haven, Conn.

DOOR CHIME-CLOCK COMBINATION AB15005

The "Kitchen Beauty" combines a self-starting Sanyos electric clock that operates on 110-volts A.C. with a melodious



2-door, 2-note Rittenhouse door chime that is easily installed on standard 10-volt doorbell wiring and transformer. One piece, easy-to-clean, attractively designed plastic housing in white, red, green or yellow colors. Size 7 1/4 x 7 1/4 inches. The Rittenhouse Co., Inc., Honeyvale Falls, N. Y.

PICTURE WINDOW FRAMES AB15019

Low-cost steel frames for picture windows have been added to the Lupton line of metal windows. Picture windows can be combined with Lupton stock casement windows at either side for ventilation. Frames are available in four standard sizes. Michael Flynn Manufacturing Co., 700 E. Godfrey Ave., Philadelphia 24, Pa.

CHECK NUMBERS AND MAIL COUPON FOR INFORMATION

American Builder, 79 W. Monroe Street, Chicago 3, Illinois

NAME	ADDRESS		
CITY	STATE		
AB15001	AB15007	AB15013	AB15019
AB15002	AB15008	AB15014	AB15020
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AB15004	AB15010	AB15016	AB15022
AB15005	AB15011	AB15017	AB15023
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			AB15025

When you address inquiries direct to manufacturers concerning a new product described here, please mention that you saw it described in American Builder

Now Available! the Perfect Combination



THE RICHMOND

Claremont

vitreous china, two-piece,
quality closet combination
Plate G-210

Now you can get the perfect closet combination — Richmond's Claremont — a compact close-coupled unit with a reverse trap bowl. Just look at this combination:

- **Richmond Quality.** Really built for satisfaction. Choice of 4 pastel colors or the famous Richmond "white-white."
- **Richmond Performance.** Large water area, deep seal, self draining jet.
- **Richmond Appearance.** Smooth modern lines and a finish fit to grace the finest bathroom.
- **And Richmond Reputation.** The name Richmond is assurance of sound design, long trouble-free operation.

The Claremont's the perfect combination — a combination you'll want to specify and install.



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RICHMOND RADIATOR CO.—AFFILIATE OF REYNOLDS METALS CO.



Richmond Radiator Company
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New York 17, N. Y.

A8-1

Please send me the latest literature and information on the Richmond line of fine plumbing fixtures. No obligation, of course.

Name _____

Company _____

Address _____

ASSOCIATIONS - Their Plans and Activities

Propose '3 Year' Plan

(Continued from page 87)

to the approaching impact of thousands of units of public housing on the building market, Lockwood warned that the government's plans were sure to produce inflation in home building. The proposed expenditure, Lockwood said—President Truman announced \$20 million of planning loans for 134,000 public units while the builders were in session—was sure to push the price of houses up next year.



NAHB officers meet with government officials: Vice President Atkinson; FHA Commissioner Richards; President Lockwood; HHFA Administrator Foley; NAHB Vice President Thomas P. Coogan; and T. B. King, chief of Loan Guaranty Section, VA.

Pointing out that the approximate \$1½ billion expenditures for labor and materials in the public program would hit an already tight market, Lockwood said this would certainly speed inflation. With private home building likely to remain at an all-time high in 1950, he said, the government would have to bear the responsibility for boosting house prices for ordinary citizens because of the extra demand represented by the public program.

Lockwood suggested the postponement of public housing as a solution, stating that "Unless the Federal government will postpone this vast housing construction program, an inflationary spiral in housing prices for 1950 is almost inevitable."

In addition to looking over the situation ahead for the industry, the NAHB group took time out for inspection trips of Florida housing. Committee meetings were first on the agenda and were followed by the meeting of the board of directors and panel discussions. Top government housing officials attended: HHFA Administrator Raymond M. Foley made a talk and FHA Commissioner Franklin D. Richards and VA Loan Chief Bert King appeared on panels.

A hotly-debated issue was the refusal of FHA to issue commitments for projects which preponderantly end up as VA 501 loans. This situation confronts builders in many areas. As far as FHA is concerned, Commissioner Richards maintained, there is little

sense in devoting FHA staff time and funds to processing applications only to have the commitment used as an endorsement to secure 501 loans at the lower VA interest rate.

Presenting VA's side of the story, Loan Chief King maintained that the basic cause of the trouble—the difference between the 4½ FHA interest rate and the VA's 4 per cent—could not be modified without Congressional action.

Argument produced no basis for a quick settlement of the problem but, as a constructive step, NAHB decided to name a special committee to meet in Washington with veterans, leaders of the Congress and with government housing officials in an effort to solve the matter.

The major address of the meeting came from Administrator Foley, who staunchly upheld the general government attitude that the presence of the government in financing was necessary and basically made today's vast housing market possible. He reiterated that a public housing program was a necessary adjunct to private housing, but pleaded for continued cooperation between the industry and the government. He paid tribute to the builders for their part in breaking building records over the last three years.

A step that will open opportunities for builders in smaller communities to join NAHB was taken by the Board of Directors. This was approval of "chapter" units of the association in cities of under 50,000. Where not less than five active builders and five non-builders can be organized, NAHB will grant chapter status to the group, thereby extending membership status to many builders now unable to join.

Looking to the future, the Directors also approved student membership in NAHB for young men enrolled in the final year of light construction courses in colleges and universities.

The two extensions mark the first

such broadening of membership in some time for the association.

Of broad interest to the industry also was the action of the board in setting September 10 to 17 next year for National Home Week. The third NHW will take in two Sundays—a slight departure from the first events. This was voted at the request of participating builders who felt the week to be of such value that they wanted two Sundays to accommodate the crowds that have turned out.

"One of the most valuable events ever to come to the home building industry," was the general consensus about the Week. Full credit was given to the *American Builder* and Editor Edward G. Gavin for originating the idea which has proved one of the greatest merchandising and educational undertakings in home building.

Directors and officers of NAHB assembled from all parts of the nation for the Miami meeting, many with their wives and families. Official host was the Home Builders Association of South Florida. Among those who played leading roles in the meeting were First Vice President Coogan, Emil Gould, Jack Kagey and James Albert of Miami; President Lockwood and Executive Vice President Frank W. Cutright; Second Vice President William P. Atkinson of Oklahoma City; Secretary Nicholas Molnar of Cleveland; Treasurer Nathan Maniow, Chicago; Public Relations Chairman Alan Brockbank, Salt Lake City; David D. Bohannon, San Mateo, Calif., chairman of the land planning committee; Robert Brady, Baltimore, chairman of the slum clearance committee; William S. Banks, Washington, and Fritz Burns, Los Angeles.

Invitations for the 1950 fall meeting were presented to the directors by the Associations in Houston, Texas and Atlantic City, N. J. The Directors reserved opinion on the choice.

(Additional Association Items on Pages 162-164)



PRESIDENT Lockwood makes a point to legislative committee during Miami meeting



EXCLUSIVE LONG-SHAFT TRANSVERSE MOTOR MOUNTING transmits as much as 25% extra power, supports blade on oversize ball bearings from one side of the tool clear to the other.

EXCLUSIVE SAFETY-LOCK SWITCH—positive protection against accidental starting.

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Silver Line means "new design"—from

rip guide to switch—to give you the safest, easiest handling, most powerful saws on the market today. 15 new features . . . many of them exclusive . . . each of them thoroughly field tested and approved for economical, trouble-free operation. Six sizes to meet every demand from the lightweight "6" to the sturdy "12". Try these great new Silver Line Saws now available at your Thor distributor, Independent Pneumatic Tool Co., Aurora, Illinois.

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A dependable name in **KITCHEN APPLIANCES AND EQUIPMENT**

Crosley Division of Avco Manufacturing Corporation presents a complete new kitchen line . . . versatile, adaptable, modern, beautiful. You can install a Crosley Kitchen complete with the appliances and equipment you want,

in almost any size or shape of room. In addition, Crosley offers you specialized assistance through its National Builder Sales—a department developed to serve you better in supplying information for your building needs.

YOU HAVE A CHOICE OF 9 BEAUTIFUL SHELVADOR® REFRIGERATORS



Crosley offers these and many other outstanding features:

- **The new Shelvador door**—thicker in design, with completely recessed shelves that double "front-row" space.
- **Full-width freezer compartment** on some models. Frozen food capacity, up to 70 pounds.
- **Compact electric-oven unit**, heart of every Shelvador, hermetically sealed, operates quietly, requires no oiling or servicing. Warranted for five full years.

THERE ARE 8 HANDSOME CROSLEY ELECTRIC RANGES

Crosley incorporates the type of features that housewives have actually asked for:

Self sealing, self-adjusting oven door . . . flush-to-wall fit at backboard . . . automatic cooking . . . recovers the space . . . high-speed surface units with 7 speeds . . . deep well cooker . . . one-piece, acid-resistant porcelain enamel top.

You can offer homeowners and tenants a choice of models—single-oven, double-oven, cluster-top, divided-top, large-size, apartment-size—and many others.



Learn about
**THE NEW CROSLEY
BUILDERS' PLAN**

Write today for information about Crosley's special service for builders and architects.

National Builder Sales, Crosley Division, Avco Manufacturing Corporation, 1329 Arlington Street, Cincinnati 25, Ohio

HOME BUILDERS' SHOW—FEBRUARY 19-23

Visit the Crosley booths—160, 161, 166, 167
located in foyer of the Stevens Hotel

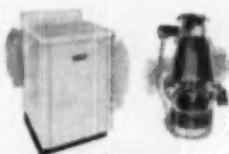


SELECT ANY OF THE 34 DIFFERENT CROSLEY ELECTRIC WATER HEATERS

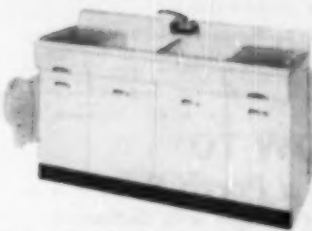


Crosley offers a wide range of Custom and De Luxe Models in capacities from 12 to 82 gallons—in both round and table-top models...

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A CROSLEY KITCHEN CABINET SINK TO FIT EVERY NEED

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Crosley Home Freezers offer you a full line of sizes from 3.2 to 30 cu. ft. capacity. Here's a special feature you can offer tenants and homeowners for as low as \$16 a month! Electrolux unit warranted for five full years.



You have a wide selection of other equipment too—base cabinets,



wall cabinets, corner cabinets, utility cabinets, range and roasting



cupboard pantries, plus accessories like the Crosley cup holder, bread box, flour bin,

A CROSLEY EXCLUSIVE!

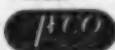
Here's the type of progressive planning that's helping to put Crosley out in front with homeowners—an attractive, full-sized radio designed especially for the kitchen! Styled in gleaming white Dulux finish, with polished chrome dial and knobs.



CROSLEY

Glencreek, Pa., Ohio

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Refrigerators • Freezers • Dishwashers • Ranges and Electric Stoves • Electric Kitchens • Small Appliances • Dishes • Electric Dishwashers • Electric Water Heaters • Radios • Radio Phonographs • Televisions
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YES, a 7' 6" No. 110 Corner Post will carry 33,050 pounds... and that's the equivalent of four circus elephants! Other Coffman Corner Posts support loads of 25,000 to 45,150 pounds.

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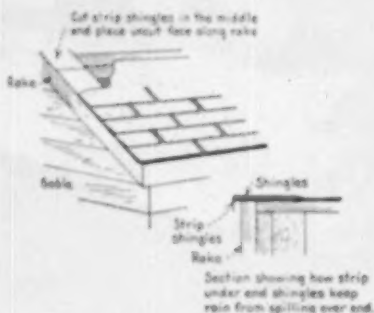
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TECHNICAL GUIDE for Builders and Craftsmen

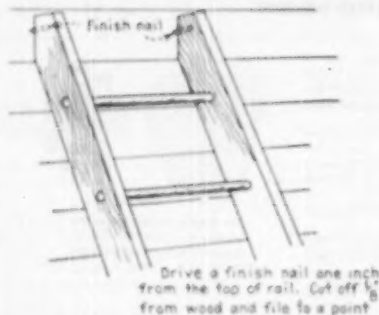
How to Do a Better Roofing Job

BEFORE applying face shingles to roof sheathing cut a group of strip shingles in the center and place the uncut edge of shingle along rake. This is better because: (1) It is not necessary to use a wood guide strip. (2) The thicker edge makes a better looking job. (3) The extra strip will help keep the rain water from spilling over the edge of gable, thus avoiding streaked surface on paint.—Submitted by C. D. Robb, Frankfort, Ohio.



HOW TO DO IT * HOW TO DO IT * HOW TO DO IT

How to Keep Top of Ladder from Slipping



WHEN workmen are in position on top of ladder and reaching out far to the left or right, the ladder has a tendency to slip. To prevent this slipping drive a finish nail one inch from top of rail. Cut off nail 1/8 inch from face of wood and file to a sharp point.—Submitted by C. D. Robb, Frankfort, Ohio.

HOW TO DO IT * HOW TO DO IT * HOW TO DO IT

How to Transfer Room Size to Base for Cutting

WHERE it becomes unhandy to measure the length of a small room or closet between the walls with a normal rule, the following method is suggested: When cutting in mouldings and baseboards, extend two pieces of a base shoe or other strips into the corners. Where one strip overlaps the other mark with a pencil and then transfer the size established on the strips to the base or mould that is to be cut. This will give the exact length for the cut.—Submitted by H. W. Meyers, Allegan, Mich.

Let your suggestion pay you five dollars (\$5.00) in cash. This sum is paid by American Builder for each short cut or job pointer that is accepted for publication. Send all material to Architectural Editor, American Builder, 79 W. Monroe St., Chicago 3, Ill.

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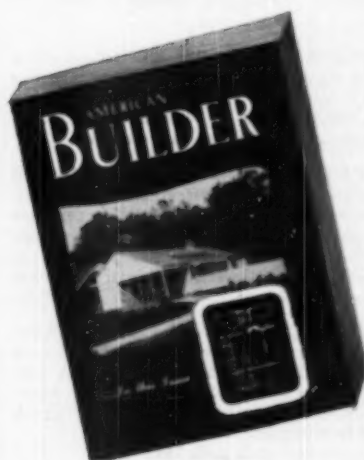
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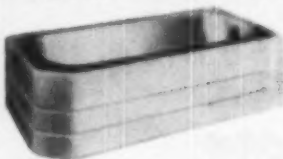
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You can point with pride to the utility features and eye-appeal of Universal-Rundle kitchens. Unit adaptability and range of sizes of cabinet sinks, counters and wall cabinets permit custom-like fittings to kitchens of many sizes and shapes.

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Catalogs and HOW-TO-DO-IT INFORMATION

678-AUTOMATIC HOME HEATING EQUIPMENT—A 20-page catalog offered by The Coleman Co., Inc., Wichita 1, Kas., describes and illustrates the Coleman line of oil forced-air, gas forced-air, oil gravity, gas floor, L-P gas floor, and oil floor furnaces; and gas wall, gas water, L-P gas water and oil water heaters. Also prominently featured is the new "Blend-Air" heating system.

679-A NEW CONCEPT IN FENESTRATION—combining advantages of light directional glass block and conventional double-hung window in a single unit, is presented graphically in a colorful four-page pamphlet now available to architects and builders from the American Structural Products Co., Toledo 1, Ohio. Sketches of the new fenestration idea in single and multiple units as well as in ribbon fenestration are shown.

680-BUILDING PRODUCTS—A building products dealer catalog, designed especially for the use of lumber and building material dealers and their employees, has recently been published by the Celotex Corp., 120 S. LaSalle St., Chicago 3, Ill. Material included is helpful in pointing out to customers the uses, advantages, and methods of application of Celotex building products. Also listed are supplementary materials and related items.

681-METAL WINDOWS—Metal windows, with frame, sill, trim, glass, and hardware, factory-assembled, are illustrated and discussed in descriptive literature available from the Trimset Corp., 2801 Market St., Seattle 7, Wash. Available sizes and installation details are included.

682-PLUMBING FIXTURES—A 28-page catalog of Kohler plumbing fixtures is compiled as a handy reference book for architects, engineers, contractors and plumbers. Fixtures described are for industrial plants, public buildings, clubs and schools. This catalog serves as a supplement to the 75th anniversary catalog issued by the firm in 1949, which contains a complete listing of the Kohler line for home and industry, electric plants, and heating boilers. Kohler Co., Kohler, Wis.

683-SECTIONAL GARAGE DOOR—Calder "Wedge-Tight" sturdy upward-acting sectional garage door is shown in a folder released by the Calder Manufacturing Co., 630 N. Prince St., Lancaster, Pa. Illustrations, features, and specifications are shown.

684-NEW PATTERNS IN RUBBER FLOOR TILE—Attractive full-color illustrations of new pattern styling highlight a new brochure made available by Johnson Industries, Inc., 164 McPherson Highway, Fremont, Ohio. Typical appropriate installations in homes, commercial establishments and institutions are shown, as is the complete range of new available colors.

685-NEW PLYWOOD PANEL MATERIAL—Welchboard, a new versatile panel material that is resin-fused and plastic-faced, is described in a new booklet issued by the West Coast Plywood Co., Aberdeen, Wash. Available in large panel sizes. Stock panels are 4x8 feet and 4x12 feet.

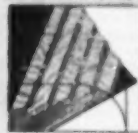
(Continued on page 134)



"I use Harbor's
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because Harbor
builds extra quality
into its products
which shows up in
appearance and service
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CHECK ANY regular user of Harbor Plywood products. You'll find they all agree: Harbor does turn out superior panels. That's because Harbor is not—has never been—satisfied to merely meet the accepted standards. Harbor's quality goes beyond those standards, and the result means three big, important advantages: 1—greater repeat business for the dealer who features Harbor panels; 2—better jobs for the builder who uses Harbor panels; 3—greater satisfaction for the ultimate consumer.

Harborite Overlay-faced Panels are Unsurpassed

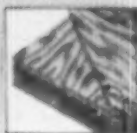


Resin-impregnated overlay faces

In the doorway illustration see how the overlay faces serve to improve service and appearance value. New weathering and wearing characteristics are added to exterior type plywood. The core-body for Harborite is the familiar cross-laminated and bonded veneer of famous Harbor-Harbor quality. After hot-pressing, the core-body is soaked in thick resin and the overlay permanently bonded. This two-phase operation assures positive check-rum control.

SUPER-Harbor's Four Extra-Value Features

Allowing only heartwood to be used throughout the panel. Precision jointing of all cross-banding to minimize cross joints. Repeating defects in all veneer plies, specifying a B grade veneer quality, producing a "solid" panel from face to back and end to end. Tempering after hot pressing, or gently reconditioning in order to produce a flat panel with the right moisture content and to reduce face checking.



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Kinball Lumber Corporation
P.O. Box 625, Salt Lake City, Utah

Longman Brothers Supply
P.O. Box 1273 (4-60 E. 39th St.)
Tampa 1, Wash.
H. H. Horton
1301 E. A. Long Bldg.
Kansas City 6, Mo.
Standard Lumber Company
142 William Street
Waterbury, Conn.
Pinebark-Walsh Lbr. Co., Inc.
271 North Avenue
Riverside, N. Y.
811 East 132nd Street
New York 54, N. Y.
Donald V. Linn Co.
1633 West Jefferson Street
Phoenix, Ariz.
Harris & Rowley
P.O. Box 743 (506 N. Field)
Belle 1, Tex.
Lester Products, Inc.
N. W. 20th Ave. & Remond St.
Portland 9, Ore.

SUPER-Harbor

The superior performance of Super-Harbor in the hands of the ultimate consumer has been made possible by exacting requirements in material, workmanship and process control. Because of these features, a uniform, never varying product is being and has always been delivered to the trade.

Comparing the members for CHS-40 with the quality requirements for Super-Harbor serves as a specific example of its superiority. Super-Harbor exceeds the commercial standard in all four of the "extra-value" features detailed at the left, next to the panel illustration.

SUPER-Harbor PLYCRETE

Super-Harbor Plycrete, for use as a concrete form, has been recognized by several users as the finest for form panel for multiple re-use on work demanding a relatively high architectural finish. Its superior construction gives it the strength to withstand rugged service. It has proven to be the most economical panel on the market for super-Harbor's fast multiple re-use work.

Harborite

Harborite is exterior plywood with faces of resin-impregnated overlay veneer. This hot-pressed panel possesses all of the permanent structural values of exterior plywood plus the tough, check-free and durable surfaces of a pleasing beveled edge.

Harborite is a construction, industrial and utility material used for architectural concrete form panels, siding and roof panels, siding for railway refrigeration cars, trucks and trailers, also for cabinet work, signs, signs, signs and other uses.

Harborite PLYCRETE

This is a superior multiple re-use concrete form panel engineered to deliver the lowest cost per foot per use. Factory edge molded and sanded—specifically for exterior forms, Harborite is especially desirable where the ultimate of re-use is to be expected.

Harbord

Harbord is Harbor's regular interior type Douglas fir plywood of Commercial Standard quality. It is a utility panel with excellent resistance to moisture in withstanding occasional dampness of condensation through walls or from other sources. Cabinets, wall panels, sheathing, sub-flooring, interior trim, moisture-protected industrial forms, interior linings, and thousands of utility uses are among the general applications of Harbord interior plywood.

Harbord PLYCRETE

Harbord Plycrete is the trade name for used in the plywood industry to designate a type of panel especially made for concrete form work. For nearly 20 years this panel has delivered dependable service for concrete jobs where limited re-use will serve the cost.

SUPER-Harbor Giant PANELS

Great size Super-Harbor panels are produced to order by joining standard panels with a 1 to 12 ratio joint. Any length Giant panels may be produced with a maximum width of 9' unboarded (10' board). Any width Giant panels may be produced with a maximum length of 9' unboarded (10' board).

Harborite Giant PANELS

Great size Harborite panels with 60/60 overlay faces are manufactured to order by joining standard panels with a 1 to 12 ratio joint. Panels may be ordered with additional plastic facing if desired.

Connor

"Laytite"

Maple and Birch

FLOORING

(LONG LENGTHS WIRE TIED)

in CARTONS

1. Have retail sales appeal.
2. Keep flooring clean and dry.
3. Keep moisture content more uniform.
4. Make inventory easy—contents are plainly marked for grade and scale.
5. Give buyers exact cost of 10 sq. ft.
6. Save time in laying mixed lengths without breaking several bundles.

MFMA SPECIFICATIONS

CONNOR "LAYTITE" PACKAGED FLOORING

Cartons keep flooring dry and clean.



Assorted lengths save time in laying.

Each carton
labeled for
easy inventory.

The **CONNOR LUMBER and LAND CO.** Sales Office
MARSHFIELD, WISCONSIN

Catalogs

(Continued from page 132)

686—NEW FLOOR COVERING IN 22 COLORS—

Dodge Vinyl-Cork flooring, available in 22 solid colors and marbled combinations, is described in new booklet issued by the Dodge Cork Co., Inc., 664 Manor St., Lancaster, Pa. Flooring is available in standard sizes, and border strip material is available up to 36 inches in length.

687—HARDWOOD FLOORING IN CARTONS—

Features and specifications of Laytite maple and birch hardwood flooring that is shipped in cartons are graphically presented in a brochure issued by The Connor Lumber and Land Co., 400 S. Central Ave., P.O. Box 112X, Marshfield, Wis. Described are Laytite packaged strip flooring, bundled strip flooring, block flooring, and flat and straight hardwood.

688—"BE SURE WHEN YOU BUILD"—

newly published booklet of the West Coast Lumbermen's Association is now available to retail lumber dealers. Eight-page booklet in full color, incorporating different architectural styles and settings, illustrates versatility of wood as a home building material. It is an effective sales aid for direct merchandising to customers and potential home builders, available from the West Coast Lumbermen's Association, 1410 S. W. Morrison St., Portland 5, Ore.

689—INSULATING CONCRETE FLOORS—

Features and construction details of Zonolite insulating concrete floors are offered in descriptive literature available from the Zonolite Co., 135 S. LaSalle St., Chicago 3, Ill. Applications of Zonolite for radiant

heat floors, floors on ground, floors above ground, upper story floors and basement floors are illustrated and described.

691—GAS-FIRED, AUTOMATIC TRASH DISPOSER—

Gas-fired automatic Calcinator, a modern gas appliance for on-the-spot garbage and burnable trash disposal, is described and illustrated in a brochure issued by Calcinator Div., Valley Welding & Boiler Co., 27th and Water Streets, Bay City, Mich. Unit uses natural, manufactured or mixed gases, providing a constant flame to dehydrate and calcine garbage, refuse and burnable trash.

SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department

[January, 1950]

American Builder,

79 W. Monroe St., Chicago 3, Ill.

Please send me additional information on the following product items, or the catalogs, listed in this department:

Number _____

Name _____

Street _____

City _____

State _____

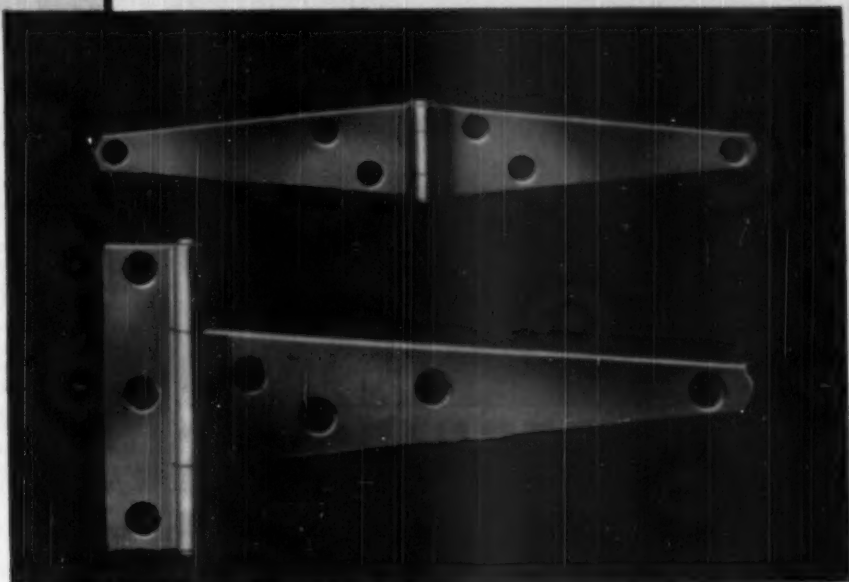
OCCUPATION*

*Please note that occupation must be stated if full service is to be given.

**NATIONAL
LOCK
HAS IT!**

Give The Homes You Build
More "Buy Appeal" With

NATIONAL LOCK BUILDERS' HARDWARE



See Your
Building Material
Dealer

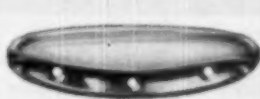
It's Good Business to Install National Lock Products.
Ask About Sash and Shelf Hardware, Butts and Hinges,
Casters, Catches, Screws and Bolts, Chest Hardware.

AND Fast-Moving National Lock Packaged Hardware.



NATIONAL TUTCH LATCH

Easily applied to interior of wood cabinets. Opens door with gentle touch. Has tremendous convenience and beauty appeal.



EASY-GRIP SASH LIFT

Designed for both beauty and utility. It provides a firm, substantial grip. Made in steel, bronze and brass. Variety of finishes.



HANDSOME CABINET HARDWARE

Beautiful matched sets. Brass, bronze and chrome finishes. Designs to fit every situation... to meet every price requirement.



NATIONAL LOCK COMPANY

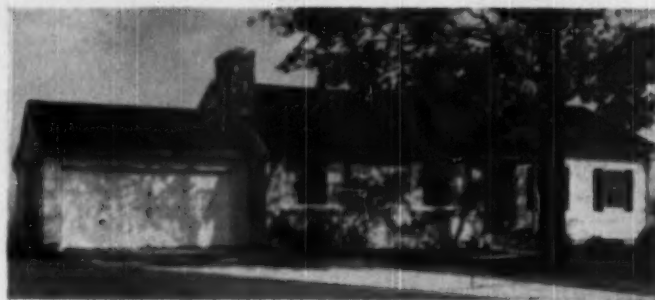
Rockford, Illinois

Merchant Sales Division

Distinctive Hardware All From 1 Source



The BARCOL OVERdoor



for MODERN HOMES



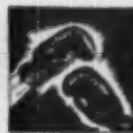
An Improved Overhead Door—the Barcol OVERdoor—brings *beauty* to the garage closures of these up-to-date residences. In addition, it brings *utility*—quality construction, lasting usefulness with low maintenance costs, weathertightness, easy operation, freedom from sticking, an exclusive closing action, and other distinctive mechanical features. Buy the Barcol OVERdoor for lasting satisfaction.

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES



BARBER-COLMAN COMPANY

104 MILL ST. • ROCKFORD, ILLINOIS



Readers Disagree

Each Declares His Method To Be the Better

A SUGGESTION for making templates for bevel cuts on rafters was submitted by C. C. Boles of Saginaw, Mich., and published in the How-To-Do-It section of the August, 1949, issue of the *American Builder*. Since then we received a letter from H. C. Henry of Sherman, Texas, who objects to Boles's method and writes as follows:

"I am enclosing clipping from your August '49 issue in which you show a definite error. This error is a common thing for about 90 per cent of our builders, and it occurs in about 90 per cent of the buildings being constructed in our own area. If you will go out and look at houses under construction, you will find that the compound angle being used at the top end of a majority of jack, hip and valley rafters, do not fit. The usual error on a jack rafter of about a third pitch roof is that it is about 3/4-inch short on the lung side. This occurs because the workman often uses a 45 degree miter square on the top edge of rafter to get this cut. Actual angle on top edge of jack rafter to fit on third or 8- and 12-pitch roof is 50 degrees and 14 minutes. Angle on top edge of hip or valley rafter for same roof pitch is 47 degrees 52 minutes. You show these to be the same in your article.

"A simple method to get a correct fit here is one that I have shown to hundreds of workmen. Use a block the same thickness as the rafter. Place one edge of this block along the mark on the side of the rafter on which cut is to be made and scribe a second mark. At either top or bottom edge of rafter where this second mark intersects, square across to other side of rafter. A diagonal line on edge of rafter from first cutting line to point where second line was projected on opposite edge will give a true fitting rafter."

In reply to the above, Boles enclosed a model of template and a section of the roof construction to prove his point, in addition to a letter further qualifying his actions. The accompanying photographs were taken of the models. Boles's letter reads as follows:

"This parcel post package containing a template and sample of rafter cuts from same is to show that the

(Continued on page 138)

Chicago residents... needed, should not be charged students in... that worthy students... rational opportunity.

Tuck City. The cost of instruction per full-time student in the day sessions was about \$600—about \$200 less than the city colleges?

Each of these beautiful all-brick homes contains a genuine heat-circulating Heatilator Fireplace! Heats entire room, cuts fuel costs! Located in the newest and best suburb, Walnut Park Homes give you three large roomy bedrooms, two tile bathrooms, full basement with automatic gas heat, light airy kitchen with electric range and 9-foot refrigerator. Come out today and see why this is the best home buy on the market!

Open daily 9 A. M. to 9 P. M., 1636 Hopewell Boulevard.

YOUR NAME HERE

Recent reports indicate a deficit in operation for the month of July, 1949, of \$1,000,000 after income tax.

What is the solution? Mr. X and Mr. Y.

The increase of income due to fare increase is approximately seven-six.

RUN ADS LIKE THIS - AND MAKE BUYERS COME A-RUNNING!

● Every home buyer wants a fireplace! Give them one that circulates heat and saves fuel costs! It's something really different that you can offer prospects at practically no extra cost to you!

1. **Assures faultless operation.** The Heatilator Unit is a scientifically designed, heavy-duty steel form around which you can build any style fireplace. It assures correct construction even by inexperienced masons and eliminates common faults that cause smoking.

2. **Saves you time and money.** Makes fireplaces easier to build, yet adds little or nothing to the total cost because it's a complete fireplace unit from floor to chimney flue — ready to install. Mason saves time, labor and materials because designing is all done for him. You save valuable time because you don't have to supervise the job as closely.

3. **Circulates heat, saves fuel.** It takes heat usually wasted up the chimney — circulates it to every corner of the room — even to adjoining rooms. On cool Spring and Fall days, furnace operation is unnecessary. In mild climates, it's all the heat needed.

4. **Helps you close sales faster.** With customers looking for real quality features in today's market, here's a feature with dramatic sales appeal. It can be quickly demonstrated to the prospect. And he'll be intrigued because he has seen Heatilator Units in his friends' houses and has also been seeing Heatilator national magazine advertising for twenty-two years.

Put these Heatilator Fireplace "Plus Values" to work for you in today's competitive market.

Heatilator Fireplaces are sold by all leading building material dealers. Accept no imitation. Look for the Heatilator name on the dome and on the damper handle. Heatilator, Inc., 631 E. Brighton Ave., Syracuse 5, N. Y.

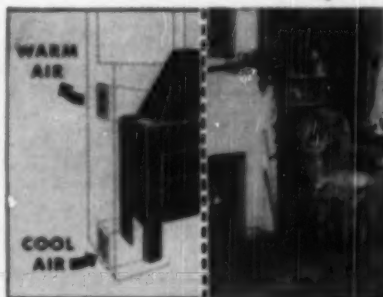
*Heatilator is the reg. trademark of Heatilator, Inc.



HEATILATOR FIREPLACE

U.S. PAT. OFF.

Closes Sales FASTER





Completely built-in the bathroom

a new shower designed
for **Builders**

FIAT *Cadet* BUILT-IN NO. 19B

Completely recessed, door flush with wall of bathroom, no exposed metal panels. Beautiful in appearance—clean interior, no screws or projecting fastenings to mar the bright white, smooth enameled finish.

Permanently water-tight—no mortar joints to crack and leak.

Installed cost is much less than tile or other built-on-the-job showers. Only one trade required for installation.

Size, 36" x 36" x 80"—with curtain or saphyr door as illustrated, terrazzo receptor, bonderized, galvanized steel walls with baked-on synthetic white enamel finish—will not rust.

Install a Fiat 19B Cadet on your next job. You will find this shower readily accepted by home buyers.

FIAT METAL MANUFACTURING COMPANY

THREE MANUFACTURING PLANTS
Chicago 13, Illinois Los Angeles 28, California Long Island City 1, New York
In Canada: Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

FIAT

Please send catalog of Fiat Showers, Receptors and Doors. Also builders bathroom floor plan sheet.

NAME _____

COMPANY _____

STREET _____

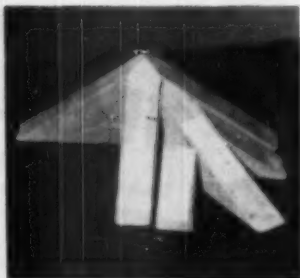
CITY _____ ZONE _____ STATE _____

Mail to Fiat Metal Mfg. Co., 1209 Roscoe St., Chicago 13, Ill.

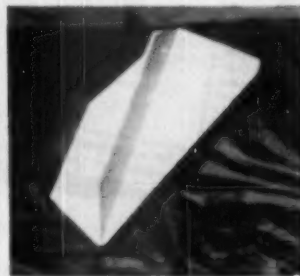
Readers Disagree

(Continued from page 136)

idea as submitted and published in *American Builder*, August 1949, page 129, is no fake as we are led to believe by H. C. Henry of Sherman, Texas. To obtain all the levels required for a hip roof of any pitch for a rectangular



MODEL of rafter cuts



MODEL of template

building, proceed as follows: For example, take a $\frac{1}{2}$ -pitch roof, which makes a 12 inch run to an eight inch rise; take 12 inches for the level cut and eight inches for the plumb cut. Take 17 inches for the level cut and eight inches for the plumb cut on valley or hip.

"For top bevel on jack rafters, take diagonal 12 inches and eight inches on square which is 14.42 inches. Then use the 14.42 inch and 12 inch run on square, marking on the 14.42 inch side for bevel.

"Proceed the same for the valley rafter. The diagonal of 17 inches and eight inches is practically 18- $\frac{1}{4}$ inches. Then take 18- $\frac{1}{4}$ inches and 17 inches on square, marking on the 18- $\frac{1}{4}$ inch side for the top cut on a hip or valley rafter.

"To simplify making the template, suppose we take 3 pieces of stock lumber $\frac{3}{4}$ inches thick, one 4-inch stock and two 6-inch stock widths, make them all 16 inches long, then the center piece which is for the bevels, will be about 5- $\frac{1}{4}$ inch wide. Cut the levels as required, and when all is nailed together, the top and side bevels can be marked without moving the template."

Presenting The New and Beautiful

INSULITE INTERIOR FINISH BOARD PRODUCTS

A Streamlined...Colorful...Sure-To-Sell Line

Mr. Faber Birren

— nationally known consultant on color preferences of the buying public, selected these new sales-proven Insulite colors. He is retained by many of the world's largest manufacturers strictly for his experience in the vital field of consumer color preference and its relation to consumer buying habits. You profit by his two decades of research in the color wants and buying motives of the American public.

No Guessing Against Human Taste — These are Colors the Public Wants

Why gamble in selecting colors? Since color is vital to your sales, every possible avenue of fact and scientific analysis was assessed and judged for its selling value before these new Insulite colors were chosen.

This was neither guesswork nor private opinion. Choice was based upon market research to accurately measure the desires of today's buying public. You can be sure these new Insulite colors are keyed to buying opinion — they'll help you satisfy your customers — get more jobs easier, at a profit.

Exceptional Advantages

Rarely has there been a line of new products as rich in variety and flexible in adaptation as these new Insulite Interior Finish Products! Singly or in combination, they can be employed in a stimulating variety of striking and original effects. The finished result is beautiful... attention getting... and sure to earn you compliments.

Best of all, these new products can be applied fast and easy... without special preparation or the use of special clips. No skill required — anyone can do it. Just use nails or staples direct to framework. Saves time, cuts application costs. Helps you do a better job at competitive figures with assurance of satisfactory profit. This line was designed as a practical business-builder and job-getter.

New Insulite Joint

Assures a trim, neat, tight joint that defies dust infiltration and stays securely in position. Concealed fastening without using special clips. Application is fast and easy with nails or staples.



LUSTERLITE TileBoard and Interior Board

Colors: White, Ivory White. Texture: Smooth...high light-reflecting. Joint: TileBoard employs new Insulite Joint (illustrated below); Interior Board has square edged joint. Sizes: TileBoard, 12"x12", 16"x16", 16"x32"; Interior Board, 4' width by 6', 7', 8', 9', 10', and 12' lengths.

DUROLITE Plank and Interior Board

Colors: Ivory, Pale Green, Woodtone Light, Woodtone Dark. (The two Woodtones in the Plank are carved, half light and half dark, to provide variegated effect in application.) Texture: Rough...highly durable. Joint: Plank employs new Insulite Joint (illustrated below); Interior Board has square edged joint. Sizes: Plank widths are 6", 8", 10", 12" and 16" — Lengths 6', 10', and 12'. Interior Board — 4' width by 6', 7', 8', 9', 10', and 12' lengths.

WEVELITE Interior Board

Color: Ivory White. Texture: Rough surface. Joint: Square edged. Sizes: 4' width by 6', 7', 8', 9', 10' and 12' lengths.

SMOOTHLITE Interior Board

(Formerly SMOOTHCOTE). Color: Natural. Texture: Smooth. Joint: Square edged. Sizes: 4' width by 6', 7', 8', 9', 10' and 12' lengths.

ACOUSTILITE 1/2" and FIBERLITE 1/2"

Colors: White. Texture: Porous, giving a travertine stone effect. Joint: Butt Joint Edges Beveled and Knifed. Applied with: Cement. Sizes: 12"x12", 16"x16", 16"x32".

*Reg. U. S. T. M.

See Sinsol's File for Builders—20-11

1-50



INSULITE DIVISION
TAPCO
MINNEAPOLIS 2, MINNESOTA

STANLEY LEVELS

help you
work your
level best



No. 333
Rustproof, lightweight
aluminum, six glasses,
fully adjustable to 30°,
45° or degree of pitch
to the foot. 24 in. and
36 in. sizes.

Made accurate to stay accurate, Stanley Levels have all the features that builders want . . . for longer, more dependable service. Look for the display of levels and other quality tools by Stanley at your local hardware or building supply dealer's. Stanley Tools, New Britain, Connecticut.



No. 357N
Lightweight, weatherproofed,
seasoned pine. Four proved
glasses, handy grip. 24 and 28
in. sizes.



No. 359
Accurate, pocket-size torpedo
level, two glasses, plumb and
level. 9 in. long.



No. 187
Lightweight line level. Hooks on
line to determine grade of founda-
tion, brick, hedges, etc.

THE TOOL BOX OF THE WORLD

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • HAND TOOLS

ELECTRIC TOOLS • STEEL STRAPPING

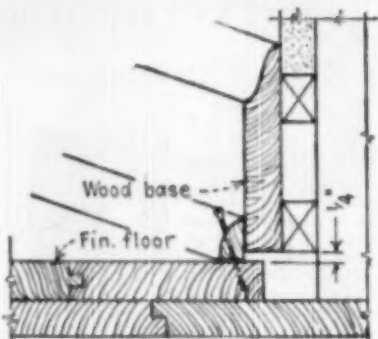


IDEAS for Apprentice Craftsmen

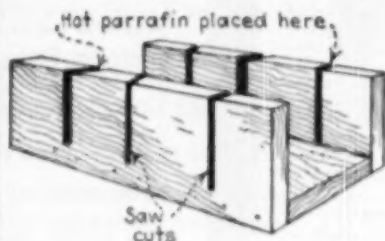
How to Apply Shoe Mould of Base

ASSUMING that there will be normal shrinkage in a house during the drying out process, the following suggestion is offered as a remedy against a large, unsightly opening occurring between floor and shoe mould of base.

Instead of securing shoe mould to base, nail this member to finished floor, thus permitting the shoe mould to slide against face of base. Entire base should be finished before shoe mould is placed in position. —Submitted by W. F. Weaver, Baltimore, Md.



How to Improve a Wood Miter Box



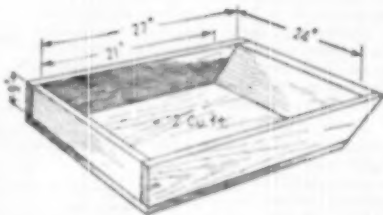
WHEN making a new wood miter box run hot paraffin down through the saw cuts on box.

When the paraffin becomes cold draw the saw that is being used through the cuts. This method will lubricate the saw as long as the box can be used. —Submitted by Edward Weary, Chatham, N. J.

How to Measure Material for Mixing Concrete

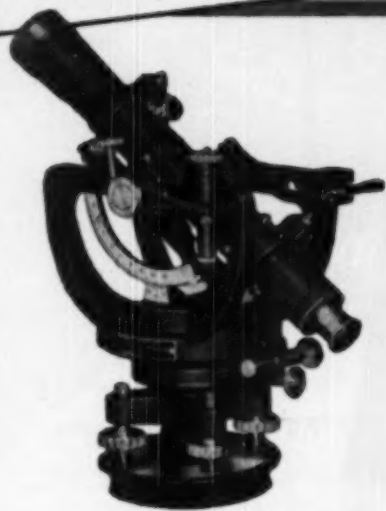
TO ELIMINATE guesswork in measuring sand, gravel, or stone for two cubic feet of concrete, make three wooden wheelbarrow beds and mount on wheelbarrow frame.

To mix two cubic feet of 1-2-4 concrete will require one bag of cement, one wheelbarrow bed of sand, and two wheelbarrow beds of gravel. Three wheelbarrow beds are loaded with materials and on hand for mixing. The finished batch will fill two wheelbarrows. —Submitted by Oscar West, Byron, Ohio.



**Avoid costly errors
with this . . .**

**NEW UNIVERSAL
Level-Transit**



**Price \$165.00
complete with tripod**



Now David White offers you, at the lowest price anywhere, the finest of Universal Level Transits with $4\frac{1}{2}$ " protected arc, internal focusing and coated optics.

Don't wait if you're in the market for a new all-round practical builder's instrument—see the improved new David White Model 3000 Universal Level Transit now.

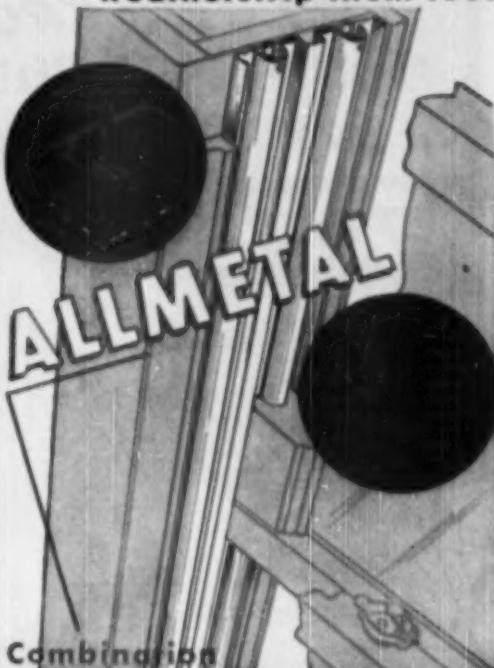
You'll find this instrument properly used will be your best insurance against costly layout and building errors. The new $4\frac{1}{2}$ " protected arc means easier, more accurate readings, less likelihood of instrument damage through accident. Internal focusing assures you of dust and dirt-free inside lens surfaces, better protection for optical parts and mechanism. Coated optics mean clearer, distortion-free images, sharper definition, positive readings at greater distances and under adverse conditions. Instrument spindle supported on ball bearings for perfect horizontal adjustments.

Ask our nearest dealer to give you complete information on this and other fine engineering instruments. Or write direct to David White Co., 311 W. Court St., Milwaukee, Wis.

**DAVID
WHITE**
CO.

**We offer complete,
prompt repair service on
all makes of instruments —
levels, transits, theodolites, etc.**

**This is the way to
balance windows . . . and
weatherstrip them too!**



SASH BALANCE AND WEATHERSTRIP UNIT

Do two jobs at once on any double-hung window. Here is an installation on an economy frame giving an all metal sash run. Or simply "cap" old or new wood parting beads. Allmetal Sash Balance give stable sash — provides finger-tip control — cuts labor and material costs and provides better windows by weatherstripping as well as balancing. Send for complete information now.

ALLMETAL WEATHERSTRIP CO.

2243 North Knox Avenue, Chicago 39, Illinois

Gentlemen: Please send me complete information and prices.

Name _____

Address _____

City _____

State _____

Zip _____

Get the Facts

About the NEWEST STEEL DOOR and FRAME on the market!

FREE



HOLLOW STEEL DOORS and FRAMES

were selected
for

STUYVESANT TOWN
New York City

PETER COOPER VILLAGE
New York City

RIVERTON
New York City

FORDHAM HILL
New York City

PARKLABREA
Los Angeles, Cal.

PARKMERCED
San Francisco, Cal.

Sliding Closet Doors • Elevator Doors • Elevator Enclosures

U S F

UNITED STEEL FABRICATORS, INC.

WOOSTER, OHIO

Construction Outlook

(Continued from page 107)

labor supply which has eliminated much delay and has permitted more efficient scheduling of operations.

Our figures on average hourly earnings in contract construction are averages for all construction workers including skilled, semi-skilled and unskilled. Overtime and other premium payments are included in these figures. The average stood at \$1.87 in September 1949 compared with \$1.83 a year before. This increase is less than for union wage rates and is partially explained by elimination of much overtime and the narrowing of the differential in some localities between minimum union rates and the actual scale paid.

I have mentioned that materials prices are likely to remain relatively stable through 1950 with substantial declines unlikely. In September 1949, the last month for which data are available, our wholesale price index of building materials, with 1926 as a base, stood at 189.4. The average for 1939 was 90.5. This represents an increase of 109 per cent during the ten year period. Not all building materials increased in the same proportion. Lumber increased 200 per cent, structural steel 67 per cent, cement rose 46 per cent and brick and tile prices increased 77 per cent. Although lumber prices have declined about 12 per cent from their peak in August 1948 they still seem somewhat out of line with other materials and may drop further. On the other hand, small increases for structural steel and steel products seem probable, reflecting the terms of the new agreements in the steel industry. Certain materials such as brick and tile have reversed the downward trend in recent months and have moved fractionally upward. So long as our economy maintains its present course, building costs must remain substantially higher than prewar levels.

Supplies of building materials in 1950 should be adequate to meet all expected demands. There may be some steel shortages due to the strike but these should be only temporary and the brief delays will probably be made up quickly. In general the labor supply will be adequate with only spot shortages in certain trades.

Developments in the housing field will remain the principal focus of attention during the coming

(Continued on page 144)



especially when it's **RUBEROID-ROOFED**

The "Good American Home" Program, sponsored by the NRLDA and USSLL is a very fine thing for home-buyers and home-builders alike. As one of the manufacturers participating in and supporting this all-out co-operative effort, The RUBEROID Co. is confident that such a comprehensive and forceful home-ownership plan cannot fail to exert a tremendous influence in bringing thousands of enthusiastic prospects to the building industry in 1950.

The five basic modern homes designed for the "Good American Home" Program by the noted architect, Randolph Evans, are of a nature which gives considerable prominence to the roof lines. The specifications for these excellent small homes call for Ruberoid shingles in either the TITE-ON or TIMBERGRAIN or THICKBUTT designs. And in many cases side-wall specifications will

include Ruberoid Asbestos-Cement Siding in one of the dozen available varieties of types and colors. Thus the styling and budgetary requirements of the thousands of homes which will be built under this program will be well served in the flexibility of roof and side-wall design and cost which the Ruberoid line makes possible.

Because of its budget and educational features, this program will benefit the entire building fraternity—through the combined publicity efforts of not only a large segment of the building industry, but of the home furnishings, appliance and food industries as well. If you decide to tie in directly with this effort by building a "Good American Home," so much the better—and Ruberoid will help you in every way possible.

But . . . in any case . . . don't forget that when you specify Ruberoid Roofs, you are getting what it takes to top off a "Good American Home."

RUBEROID

asphalt & asbestos building materials

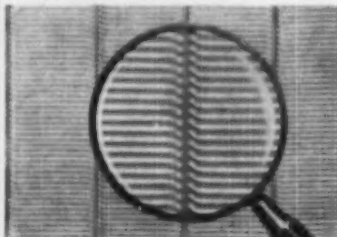
The RUBEROID Co., Executive Offices: 500 Fifth Ave., New York 18, N. Y.

See this new kind of screening at the NAHB show

From February 19 through 23, at the N. A. H. B. Show in Chicago, you'll see how Kaiser Aluminum Shade Screening keeps sunniest rooms as much as 15° cooler!

You'll see how the thin louvers—set at an angle against the sun—block the sun's rays, without blocking the view.

You'll see for yourself why Kaiser Aluminum Shade Screening is one of the fastest selling building supply items ever introduced!



MADE OF TOUGH, high grade Kaiser Aluminum. Can't rust or stain. Never needs paint. Adds extra beauty to any window.



PROTECTS INTERIORS against sun. Keeps out insects. Easily installed. Low in cost. Available from sash and screen manufacturers and building materials jobbers. Write today for free AIA File!

Kaiser Aluminum Shade Screening is produced by Kaiser Aluminum & Chemical Corporation.

Kaiser Aluminum

SHADE SCREENING

Sold by Kaiser Aluminum & Chemical Sales, Inc.
Kaiser Building, Oakland 12, California

Construction Outlook

(Continued from page 142)

year. As I look at prospects, it seems to me that some changes are likely to occur in trends established over the past few years. If further study reveals that the need for higher-cost rental housing has been satisfied—which I suspect is generally the case—Title 608 assistance will be curtailed and the volume of rental housing put under construction may decline. In many localities, builders interested in low-cost rental construction may hold off until they can see what the public housing program will do. With regard to unit costs, I see very little prospect for further reductions in the average price at which new houses can be put on the market. Some builders will probably move into a smaller sized, lower-cost program, but others will go in the opposite direction. I have heard that several important builders are planning to offer larger houses during the coming year, anticipating that higher income buyers, who have been holding off, will come back into the market.

(NOTE: Opinions expressed in this article are those of the author and do not necessarily reflect the official policy of the United States Department of Labor.)

New Use For Sawdust

Scientists of the Rock Island Millwork Co. have succeeded in transforming sawdust into a wood product which they have named Resinwood. Lumber rejects, and shavings, also used, are reduced to the consistency or mash of sawdust during a manufacturing process at a special plant on the Millwork property at Rock Island, Ill. To make the new product, wood materials are blown into a central storage vault which has a capacity of 220,000 pounds. The sawdust is ground to a specified particle size in a suitable grinder which has a capacity of five tons per hour. Sawdust and phenolic resin are combined in one mixer, passed through to another mixer to be perfectly blended, then on by bucket elevator to a hopper of a press loading system. Large trays are passed through beneath the hopper and filled with the Resinwood mixture by such an accurate process that the completed boards do not vary in thickness more than a few thousandths of an inch.

The finished Resinwood panel has a hard smooth surface which is practically impervious to dents and blows. In appearance, it resembles the natural wood from which it is made. Color is similar to natural pine. It may be used by the machining process to which natural wood is subjected.

See this beautiful siding at the NAHB show

From February 19 through 23, at the N. A. H. B. Show in Chicago, you'll see the beauty of Kaiser Aluminum Siding...how easily it's applied...and all these other advantages:



FLAWLESS BEAUTY and quality, free of splits, knots or sawing scars. Baked-on paint finish that can't chip, crack or peel. Strong, dent-resistant aluminum that can't rot, warp, crack or rust, that's fire-resistant, that can't be damaged by termites.



EXCLUSIVE CURVED SURFACE installed under tension to make rigid, sound-resistant insulating siding, weather-proof joints, beautiful shadow lines without wrinkles. And construction costs are low! Meets FHA requirements for new construction. Write today for free AIA File!

Kaiser Aluminum Siding is produced by Kaiser Aluminum & Chemical Corporation.

Kaiser Aluminum

SIDING

Sold by Kaiser Aluminum & Chemical Sales, Inc.
Kaiser Building, Oakland 12, California

HOW TO SELL OR RENT YOUR HOMES QUICKER!



Here's Why More and More Contractors Are Building Homes with ZONOLITE* Vermiculite!

• Today people are looking for houses that cost less to maintain... that are more comfortable and convenient... that provide greater safety against fire hazards. Use of Zonolite Vermiculite in homes provides builders with all these sales features. Wide-awake builders are using the many advantages of these miracle products to sell homes faster.

ZONOLITE PLASTER

Makes Better Walls and Ceilings

A Zonolite plastered wall won't chip even when nails are driven into it. Holds fire out 4 times longer than ordinary plaster. Insulates, muffles annoying sounds. It's 3 times lighter to handle. Speeds construction, cuts costs, saves time in preparation and clean-up.

ZONOLITE CONCRETE

For Insulated Ground Level Floors

Warm, dry basement floors with Zonolite Insulating Concrete! In basementless homes, it means no condensation, no chilling drafts, greater comfort. Permits radiant heat systems to operate more efficiently,

more economically—heat loss into ground minimized. These are real selling points for you!

ZONOLITE Home Insulation So Fireproof It Snuffs Out Flames

Easiest of all to install! Vermin-Proof, Rodent-Proof! Won't pack, bunch, or settle. Flows freely around obstructions for complete insulation. The most fireproof insulation you can put into a home. Tremendous acceptance among prospects!

Why ZONOLITE is Winning New Friends Every Day

1. CONTINUOUS NATIONAL ADVERTISING—Millions read dramatic ads on benefits of Zonolite in Saturday Evening Post and other leading magazines including farm publications.
2. NATION-WIDE PUBLICITY—News articles that tell the advantages of Zonolite are appearing in many popular publications.
3. POINT-OF-SALE JOB SIGNS—People see these Zonolite signs on attractive, modern homes that sell and rent fast.

MAIL COUPON FOR ALL THE FACTS

Zonolite Company
Dept. AB-10, 135 S. La Salle St.
Chicago 4, Illinois

Please send me without obligation data on how I can sell or rent my homes faster, about the uses of Zonolite Vermiculite and how it adds sales incentives to houses.

Name.....

Address.....

City.....

State.....

ZONOLITE COMPANY

Dept. AB-10, 135 S. La Salle Street, Chicago 4, Illinois

*Zonolite is the registered trademark of Zonolite Company

Announcing
Myers New
"HN" series Ejecto
water system

**Convertible for Shallow
and Deep Well Service**



**A Big-Time "Salesman"
for Rural Home Builders!**

It's easier to sell your out-of-city dwellings, with Myers Water Systems in your "Sales Story." For instance, this new "HN" Ejecto has profitable advantages for both builder and buyer. Quick, easy installation means important savings for you. Quiet operation, simplified convertibility—positive action at the turn of a tap—are typical features of the new "HN" Ejecto that help to sell homes. And its continuous problem-free performance is a real good-will builder—an important asset for every builder. Full range of Myers Ejecto and Reciprocating Type Water Systems matches every water service need. And a new Myers line of Water Softeners that are today's top values. Write for catalog and name of distributor nearest you.



Famous
for Quality
Since 1870

THE F. E. MYERS & BRO. CO.
Dept. B-92, Ashland, Ohio

**Oliver M. Knoke President
of United States Gypsum Co.**

Oliver M. Knoke was named president of the United States Gypsum Co., Chicago, at the November, 1949, meeting of the firm's board of directors.

Knoke started his career 52 years ago in a gypsum mill at Oakfield, N.Y., which later became part of the United States Gypsum Co. In 1902 he was transferred to the Operating Department of the Chicago office. He held various executive positions, later becoming vice president in charge of operations. From 1931 to 1936 he was executive vice president; from 1936 to 1942, president; and from 1942 to 1949, chairman of the executive committee.

No extensive changes in the personnel of the sales and service departments are contemplated at the present time, company officials said.

**American Kitchens Opens
Builder-Sales Department**

Organization of an entirely new American Kitchens builder-sales department, with Stanton E. Smalling as manager, has been announced by F. F. Duggan, general sales manager of the American Central Division,



STANTON E. SMALLING

Named to Chain Belt Post

Robert R. Horton has been appointed mid-west sales representative for the Construction Machinery Division of the Chain Belt Company of Milwaukee, the company announced recently. Horton, a graduate of the University of Wisconsin, has for a number of years served as district sales manager for a large mid-western construction machinery manufacturer.

Aveo Manufacturing Corp., Connersville, Ind.

Smalling, who has recently been in charge of American Kitchens sales in the Cleveland area, will now make his headquarters at the American Central plant.

Duggan said that the new department had been established because of sharply increased sales of American Kitchens to builders.

IN-SINK-ERATOR



is the **ONLY** food waste disposer conceived and engineered by an Architect* to meet the exacting requirements of the building professional.

Note compact streamlined smoothness—no projections—so easy to keep clean.

Unlimited Capacity

Safe continuous feeding, during operation eliminates stop-and-start nuisance where capacity is restricted in units which operate only when cover is locked.

Alternating Shredder

Exerts two-way cleansing, overcomes clogging, doubles life of shredder and provides self-sharpening action.

Write for catalog or see Sweet's Blue-Book, to Architects—4b, 12 Builders

*John W. Hennessy, Registered Architect... President, In-Sink-Erator (Founded 1938).

IN-SINK-ERATOR MANUFACTURING CO.
RACINE, WISCONSIN

ANSWERING YOUR QUESTIONS ABOUT MODULAR SIZE WOODWORK



IS THERE A PRACTICAL ANSWER TO HIGH BUILDING COSTS?



Yes, there is a proved, practical way to help cut the high cost of building. It is *modular design*—which means that you can cut costs by using plans and materials based upon a 4-inch unit of measurement or "module." Prominent manufacturers of windows, window frames, sash, and other woodwork are now providing these products in modular sizes, joining in a great national movement which can help YOU keep building costs down!

WOOD GAINS ANOTHER ADVANTAGE!

Modular design adds another major advantage to WOOD—the ideal material for windows, sash, window frames, screens, storm sash and other building products. For wood is a natural insulator—retards the passage of heat and cold. It takes paint or other finishes easily—and holds them in a vise-like grip. Wood discourages condensation, thereby cutting redecorating costs. And today, windows and other exterior woodwork are available *toxic preservative treated* at the factory, for EXTRA resistance where staining, decay, insect attack or humidity are problems.



Q. WHAT IS MODULAR SIZE WOODWORK?

Modular size woodwork consists of windows, window frames, sash, screens, etc., sized on a 4-inch unit of measurement. With modular sizes, all types of check-rail windows, whether 2-light, 4-light, 8-light, 12-light, top divided or other type, are built to the same standard 2-light opening size.



Q. HOW DO MODULAR SIZES CUT BUILDING COSTS?

By reducing cutting and trimming on the job. Modular size woodwork, used with a modular plan, means that units go together quickly and easily on the job—that construction time is materially reduced—that labor costs are considerably lower.



Q. ARE MODULAR PRODUCTS GENERALLY AVAILABLE?

In woodwork such as windows, window frames, sash and screens, modular sizes are available in all standard designs, including the leading pre-fit or pre-assembled units. Other modular products are now available for the entire exterior shell of a building.



Q. IS MODULAR DESIGN SUITABLE FOR ALL TYPES OF BUILDINGS?

Yes, the planning of any building on the 4-inch modular system is easy and convenient. Modular design imposes no limitation or restriction on free architectural expression.

GET ALL THE ANSWERS—MAIL THE COUPON!

Your lumber dealer will gladly explain all the details of modular size woodwork—show you how it can save you time and money. Or, mail the coupon for our free folder.

NATIONAL WOODWORK MANUFACTURERS ASSOCIATION

332 SOUTH MICHIGAN AVENUE • CHICAGO

This seal of approval identifies woodwork products which meet N.W.M.A. minimum standards of toxic preservative treatment.



National Woodwork Manufacturers Association
332 South Michigan Avenue
Chicago 4, Illinois
Gentlemen: Please send me your folder,
"New Savings for Builders."

Name.....

Address.....

City..... Zone..... State.....

A good man is 5 times as good when you give him a STANLEY-CARTER J5 POWER PLANE

The combination of 1 h.p., 18,000 r.p.m. motor and the spiral cutter fits doors, sash, screens, storm sash, transoms, etc., up to 5 times faster than by hand. Smooth, waveless surface even against the grain. Won't splinter out. Bevel cuts up to 45° and any size cut from paper thin to 1/4" . . . any width up to 2 1/2". Attachment for sharpening cutter. Bench bracket converts the J5 to high-speed jointer. Rugged, lightweight aluminum alloy body. Three wire cable at rear, out of way. Double pole, momentary contact, safety trigger switch with lock. Metal carrying case for Plane, attachments and accessories.



STANLEY

This trade mark on electric tools tells you the most important thing you want to know about tools

When you buy an electric tool you have to take somebody's word about gears, motor, bearings, shaft, switches, power, etc. Whose word about tools could be more reliable than the word of "Stanley"—tool makers for over 100 years. On an electric tool the name Stanley means the tool is quality built, thoroughly tested and honestly rated. Covered by a generous guarantee and serviced by a network of Stanley Service Stations. See your dealer or write for complete catalog. Stanley Electric Tools, 492 Myrtle Street, New Britain, Connecticut.



**Stanley W7
Safety Saw**

Heavy duty for fast cutting. Duplex handle and independent trigger switches for easy handling in all positions. Saw teeth covered at all times. Simple adjustment for depth of cut (2 to 2 1/2") and bevel cuts up to 170° at 45°.

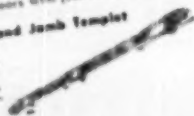


**Stanley-Carter
Hinge Butt
Router (No. 81)**

1 1/2 h.p., 18,000 r.p.m. motor does the work 5 times faster than by hand. Perfectly flat surface for hinge butts. Easily adjusted for hinge thickness. Air-wax perfectly hinges doors with just the right clearance.

Stanley-Carter T3 Door and Jamb Template

For use with hinge butt router. With this combination a man can mortise up to 75 doors and jambs a day. Every mortise better perfect, no recutting, chiseling or driving hinges. Adjustable for any size door.



STANLEY
Hardware • Hand Tools
Electric Tools • Steel Shaping

Saberson . . .

(Continued from page 120)

leave their homes to be buffeted about while legal entanglements are being unstarred and other families take over.

Actually, this isn't what happens except in distress cases which are the exception rather than the rule. The thrifty family that sizes up the pros and cons in their individual situation and decides to buy a home has no intention of throwing it overboard except when forced to do so. Promptly such a family has a new lease on life. They become a permanent part of the community and therefore assume an entirely different attitude toward its schools, churches and everything else that pertains thereto. They become more interested in the calibre and character of the city, state and national officials. The fact that they are rooted to the community via the strong ties of home ownership causes them to look upon their employer with an entirely different set of eyes . . . to appraise the quality of their work and to study more carefully their relationships with their fellow men.

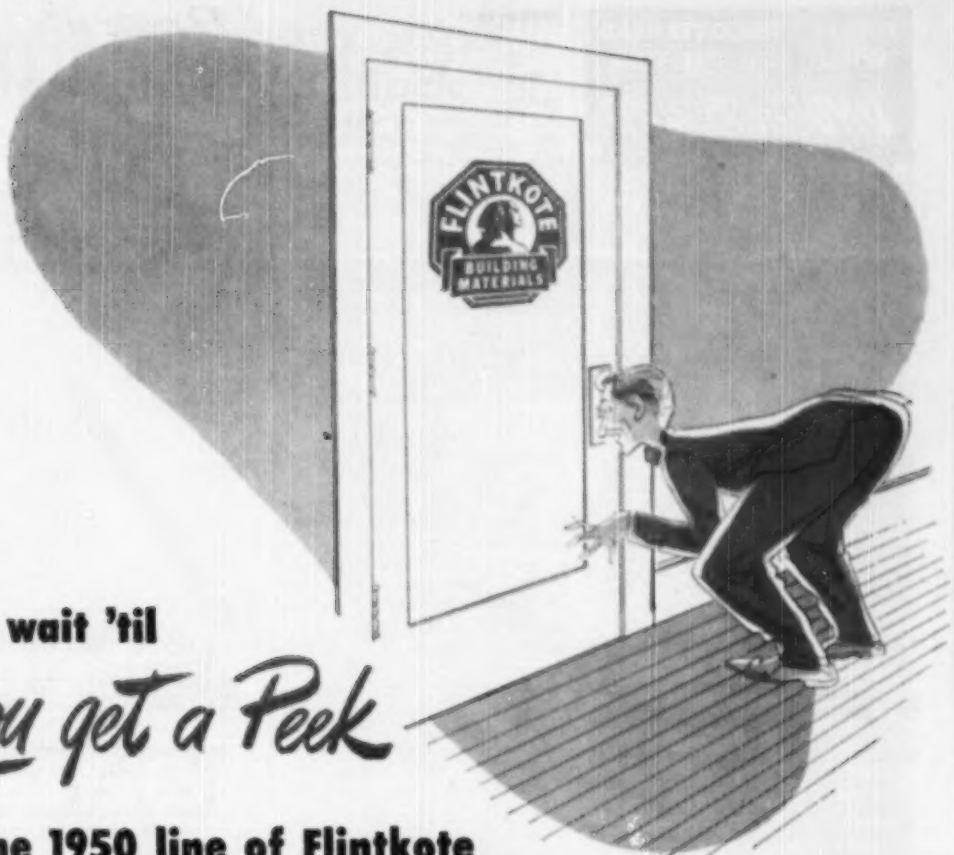
It may seem like an overstatement to claim that such a vast difference exists between home owners and renters but the fact remains that their interests are vastly different. Probably a better appreciation of this difference can be better understood if we consider what would take place if no one owned his own home and all families everywhere lacked the steady influence that exists in the feeling of real security which is acquired when it actually is being earned.

Consequently, the trend to home ownership may well be regarded as one of the greatest things that can happen to America during these turbulent times. It causes James L. Holten, Real Estate Editor, World Telegram (New York City) to conclude that "This acceleration in home ownership in the United States, many observers believe, should have far-reaching consequences for the future. Politicians may find that home owners as a bloc won't take kindly to socialistic raids on Federal or state treasuries."

Under such circumstances there should be no cause for alarm in the fact that so many families are deciding to carve out their own security through the purchase of a home.

On the other hand, high praise should be heaped upon an industry that rolled up its collective sleeves and broke all records in building homes that today's families are willing to buy and live in.

(Continued on page 150)



Just wait 'til

You get a Peek

at the 1950 line of Flintkote

Interior Insulation Board Products...

*Smart
New Colors!*

*Attractive
New Textures!*

*New, Improved
Finishes!*

Don't let another day go by. Get the full story *now* on this sensational, new 1950 line of Flintkote Insulation Board Products.

Never before has there been such variety. Now, in this popular, versatile material, you can offer customers their choice from an unusually wide range of colors and finishes.

Write today, THE FLINTKOTE COMPANY, Building Materials Division, 30 Rockefeller Plaza, New York 20, N. Y.

Flintkote has these other leaders, too

INSULATED SIDINGS

ASBESTOS-CEMENT SIDINGS

ASPHALT STRIP SHINGLES

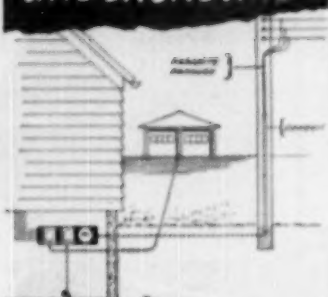
INSULATING WOOL...made of Fiberglas®

THE FLINTKOTE COMPANY, NEW YORK 20, N. Y.

FLINTKOTE ... *the extra years of service cost no more!*

THERE'S LESS OVERHEAD
WHEN YOU USE THIS

UNDERGROUND



ParaUSE "Type RR" Cables are made with a high grade heat and moisture resisting insulation protected by a tough neoprene sheath over the conductor insulation. This jacket provides an armor for the conductors which is resistant to heat, (even to flame), oils, acids, alkalis, and moisture. Sunlight, air or exposure to weather has little or no effect on its life. ParaUSE Cables are designed for direct burial in the earth, or for installation in trench ducts or on overhead pole lines.

PARANITE "ParaUSE" CABLE "Type RR"



NON-METALLIC—NEOPRENE SHEATH

ParaUSE "Type RR" Parkway Wire and Cable provides economical permanent underground installation from power line to meter and for connecting several buildings from the same service. Examples of its application are on farms, estates and institutions, and for lighting streets, airports, ball parks, drive-in-theatres and many other outdoor lighting and power circuits.

It eliminates the trouble from sleet, windstorms and weathering. Unsightly outside wire is also done away with. You save labor. You save time. Simply dig a trench and cover; no other protection necessary.

IF IT'S PARANITE IT'S RIGHT!

PARANITE WIRE AND CABLE
DIVISION OF ASAR WIRE CORPORATION
FORT WAYNE 4, INDIANA

Representatives and branch offices: Akron, Ohio; Dallas, Texas; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; Kansas City, Mo.; Los Angeles, Calif.; Miami, Fla.; Minneapolis, Minn.; New York, N.Y.; Philadelphia, Pa.; Portland, Ore.; St. Louis, Mo.; San Diego, Calif.; San Francisco, Calif.

Saberson . . .

(Continued from page 148)

That, to us, seems to be the all-important factor in the whole situation. Regardless of terms, no one willingly obligates himself to a lifetime of monthly payments (even though they are the equivalent of rent) unless he believes he is getting value received.

Not so long ago the Wall Street Journal answered the question of "What's behind the upward burst in home building" in the following manner:

"Real estate men, almost to a man, name two prime factors.

"First, builders have switched their main efforts from high-cost houses to less expensive ones—with the result that buying is picking up as 'folks find houses they can afford.'

"Second, many people who had been holding off for lower prices have finally decided (say the real estate men) that prices have slipped about as far as they can be expected to go in the near future—and that they 'might as well go ahead and buy.'"

True. However, there are two other factors that should not be overlooked. (a) Terms which make it just as easy to buy a home as it does a new car. (b) The decision on the part of an unprecedented number of families to buy and pay for their own home rather than letting Uncle Sam do it.

To us, there is much encouragement in the fact that more families than at any time in history decided in favor of individual home ownership during the very months when our ever-lazy bureaucratic friends were promising them the earth and part of the moon—residentially speaking.

Despite the glamour of political promises, these earnest people who constitute the backbone of our nation stepped out and bought their own cozy little homes . . . aided and abetted by an industry that was building the kind that made them want to take the first step to security.

New Osgood Sales Manager

Paul M. Smith has been appointed general sales manager of the Wheeler Osgood Co., Tacoma, Wash., door and plywood manufacturers, the firm's president, J. H. Gonyea has announced.

Smith, who also holds the post of secretary, has been affiliated with the company for approximately 20 years and is experienced in all phases of its operations.

Brown's SUPERCEDAR

NATIONALLY ADVERTISED
Red Cedar Closet Lining

Guaranteed 90% Red Heart or Better

Only SUPERCEDAR is of 100% oil content
the same uniform high
quality standard that
guarantees every
package to contain
90% Red Heart or
better, and 100%
oil content
which produces
the pleasing
aroma.

SEALED
PACKAGED
LABELED



SUPERCEDAR
CLOSET LINING

Most home builders are specifying cedar lined closets today than ever—and Brown's SUPERCEDAR is nationally advertised to thousands of new home prospects, architects and builders. SUPERCEDAR closet lining is surfaced, tongue and grooved, ready to put on with no waste. Packaged and sealed with the Geo. C. Brown label and guarantee, famous since 1886.

Product of

Geo. C. Brown & Co.

GREENSBORO, N. C.

ESTABLISHED 1886

LARGEST MANUFACTURERS OF
AROMATIC RED CEDAR IN THE WORLD

when the call is for
CONTROLS
you'll find the answer



HERE

Bigger, Better,
General Controls
Catalog now ready
—reserve your copy!

104 pages covering the complete General Controls line of Automatic Pressure, Temperature, Level and Flow controls. It charts, tabulates and details, capacities, pressures, dimensions and specifications of hundreds of controls. Whenever the product or process—in heating, refrigeration, aircraft or industry, there's a better General Control for the job. General Controls do more and cost less. The new Catalog tells how and why. Send for your copy today.

GENERAL CONTROLS

818 Allen Ave., Glendale 1, Calif.

GENERAL CONTROLS

Automatic Pressure Temperature Level
and Flow Controls

FACTORY BRANCHES: Baltimore 3;

Birmingham 3; Boston 16; Buffalo

3; Chicago 3; Cincinnati 3; Cleveland

18; Dallas 1; Detroit 4; Denver 1;

Grand Rapids 1; Houston 2; Kansas

City 3; New York 17; Minneapolis 1;

Philadelphia 10; Pittsburgh 22;

San Francisco 7; Seattle 1; St.

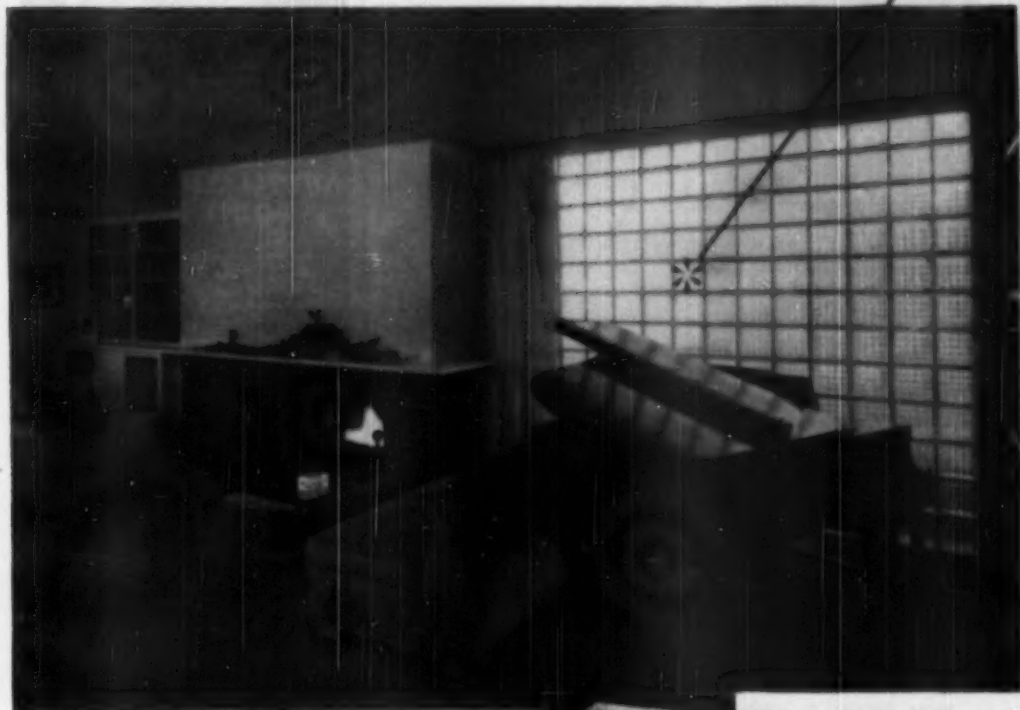
Louis 12; Tulsa 3; WILSON

50704 IN PRINCIPAL

CITIES

Guess how many ways Insulux Glass Block helps here*

Exterior view of Charles Stark residence, Toledo, Ohio, shows panel of Insulux Glass Block in living room which maintains complete privacy from nearby neighbor's house.

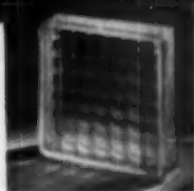


● If you're one of the builders who already use Insulux Glass Block, you likely know about the advantages of this remarkable material. But can you guess how many advantages it adds to the living room above?

Insulux Glass Block helps here in seven distinct ways:

- It fills the end of the room with daylight.
- It shields the occupants from prying eyes, hides unwelcome views and lessens noise from street traffic.
- It insulates and saves on fuel bills—keeps the room warmer in winter, cooler in summer.
- It requires no maintenance—won't rot, rust or corrode.

Does this installation give you ideas? How about Insulux in bathrooms, kitchens, stairwells, closets, entries? Send coupon for free booklet, "Daylight in Your Home." It's filled with illustrations and suggestions.



**INSULUX
GLASS BLOCK®**

AMERICAN STRUCTURAL
PRODUCTS COMPANY

Subsidiary of
OWENS-ILLINOIS GLASS COMPANY

American Structural Products Company
Dept. G-131, P. O. Box 1035
Toledo 1, Ohio


Gentlemen:
Please send me your Insulux Glass Block booklet, "Daylight in Your Home."

Name

Address

Firm

City Zone State



HOW TO MAKE A HIT WITH HOME BUYERS

The bright clean look of Cabot's Collopakes makes a hit from the start whether you're selling single homes or development houses.

Cabot's patented Collopaking process reduces pigments to submicroscopic size and inseparably combines them with the vehicle. This results in a superior house paint which dries to a durable porcelain-smooth finish which shows no brush marks... looks fresh and new for years. Because no adulterants are used in Cabot's Collopakes, the colors stay fresh and true.

Wide Color Selection —

Cabot's wide selection of thirty-two lively colors, including many unique shades available from no other source, allows unlimited variety in multi-home developments.

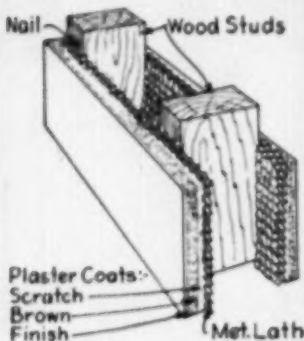
Write Today for color card, complete information and name of your nearest dealer. Address: Samuel Cabot, Inc., 124 Oliver Bldg., Boston 9, Mass.

CABOT'S COLLOPAKES

New Solid Partition Has One-Hour Fire Rating

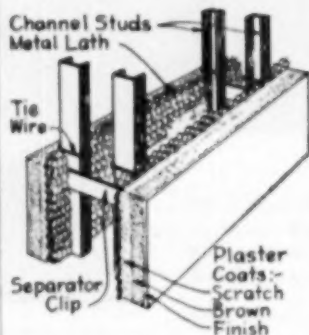
Recently developed and announced by the Metal Lath Manufacturers Association of Cleveland, Ohio, is a one-hour fire-rated 1½-inch solid partition for non-bearing wall construction.

Meeting all building code requirements, this partition consists of Perlite or Vermiculite gypsum plaster applied over 2.5-pound diamond-mesh expanded metal lath to an over-all



HOLLOW PARTITIONS ON WOOD STUDS 1-Hour Fire Rating

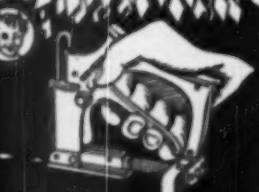
DRAWING shows how newly developed partition is used with wood studs



HOLLOW PARTITIONS ON METAL STUDS 2-Hour Fire Rating

HOW partition is constructed with steel studs for highly fire-resistant wall

1½-inch thickness. Weight of the partition is about five pounds per square foot. In addition to providing superior fire resistance, it offers great space and material saving possibilities in both residential and commercial construction.



7-1/2" RAPID-FIRE GLAZING

**Red Devil
AUTOMATIC DIAMOND
POINT DRIVER**

Speed up your glazing on sash and frames and more! Use only one hand. Automatically drives DIAMOND POINTS in machine gun speed into hardest wood. 100% efficient from any angle. Points can't drop out. Holds a clip of 100 Diamond Points.

Diamond Points are made in 1/4" and 1/2" lengths. 100 to the box. Will not corrode. Will not bend.

RED DEVIL TOOLS
Irvington 11, N. J., U. S. A.

MADE IN U.S.A. DIAMOND POINTS, TRADE MARK, PATENTED. U.S. PAT. 2,345,678. 1948. 100% EFFICIENT. 100% EFFICIENT. 100% EFFICIENT.

HERE'S HEAT at LOW COST!

**Brand New
Stewart-Warner
Portable INSTANT HEATERS**



FULL HEAT IN 90 SECONDS

100,000 BTU's per hour on 1 gal. of gas-oil. Equals heat output of oil-burning furnace for 8 room houses. 3 ducts (two-11 ft. long, one-22 ft. long) carry heat to points desired. Easy to operate — Easy to move. Completely automatic.

HUNDREDS OF USES

Instant heat for new buildings; drying plaster, cement, paint; preheating roofing materials, linoleum; thawing out water systems, radiators on cars and trucks, starting cold engines, drying equipment, etc. Absolutely no fire danger.

Limited Quantity **\$250.00** FREE Kansas City

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Wood is America's favorite building material



* These are the
Western Pines

Idaho White Pine
Ponderosa Pine
Sugar Pine

* These are the
Associated Woods

Larch
Douglas Fir
White Fir
Engelmann Spruce
Incense Cedar
and Red Cedar
Lodgepole Pine

Well manufactured. Skilled handling and modern methods feature every step from forest to loaded car. Milled after seasoning for precise, uniform sizes.

Thoroughly seasoned... at the mill in accordance with the most improved practices and under the supervision of specially trained Association personnel.

Carefully graded... under the Association's published rules. Grading is constantly supervised and checked by the Association's Grading Bureau.

WESTERN PINE ASSOCIATION

Yeon Building, Portland 4, Oregon

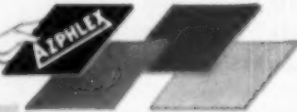
**KEEP
FLOORING COSTS DOWN**

Quality Up!

WITH
AZPHLEX
ASPHALT TILE

• Juggling cost against quality is no problem with beautiful, resilient Azphlex, the premium-grade asphalt tile that has *everything*—including a modest price tag! Very resistant to denting and maring, exceptionally durable, easy to lay in a wide variety of patterns and highly resistant to greases, alkalis, alcohol and mild acid solutions, Azphlex offers a lifetime flooring for installation over wood, metal or concrete sub-floor, above, on or below grade. Colors and marbling are permanent, being through and through.

WHEN FLOORING SPECIFICATIONS
CALL FOR THE BEST —
THEY MEAN



Ask your flooring dealer
for full information about
AZPHLEX—See our catalog
in *Sweets Architectural*. Or,
if you prefer, write Dept. B.



VALDE ROCK ASPHALT CO.
Makers of AZROCK and AZPHLEX Asphalt Tile
FROST BANK BLDG. SAN ANTONIO, TEXAS

Murray Announces New Line Of Kitchen Appliances And Bathroom Fixtures

The Home Appliance Division of The Murray Corporation of America is embarking on mass production and national distribution of quality kitchen appliances and bathroom fixtures in the moderate price field. Murray will produce, in their modern plant at Scranton, Pa., a completely new line of gas and electric ranges, kitchen cabinets, bathtubs, lavatories and sinks.

Distribution of the home appliances will be through appliance distributors, dealers and plumbing wholesalers.

Murray electric and gas ranges are being made in 10 models, which span the field in 20-inch, 36-inch and 40-inch ranges. Models include a 20-inch Rangette, 36-inch Utility model, and a 40-inch range in three models with a variation of features.

The kitchen appliance line comprises a complete series of sink and cabinet combinations, floor and wall cabinets, and flat-rim sinks. In the Murray line of bathroom fixtures are corner and recess bathtubs in an assortment of colors, and open base or cabinet base lavatories in matching colors. Lavatories are made in both 18-inch and 24-inch widths, available in the same colors as the bathtubs.

SYNTRON VIBRATING FLOATS



Speed Up Concrete Work

Here's a new tool for the concrete man—5 times faster than by hand, that—

—permits the use of a much drier mix.

—produces 30% denser, stronger concrete floors.

Write for folder

SYNTRON CO.

618 Lexington, Homer City, Pa.

MULLER MIXER
Now a
3 cu. ft.
PLASTER
and
MORTAR
MIXER...



**for the small contractor, or for
decentralized mixing on large jobs**

With B. & S. engine drive \$320 . . . Electric drive \$300

Here's a unit that will place your mixing on an efficient money-saving basis. Just wheel it to the spot nearest the work . . . goes through 30-inch doors. Charging height 32 inches . . . heavy-duty blades give end-to-end action for thorough mixing . . . hopper splitter saves time. Winged housing for quick access to engine and drive . . . hinged safety grating for easy cleaning. Long-life construction . . . heavy roller chain and machine-cut gear drive . . . trouble-proof stuffing box.

Literature on request.

Also 6 and 10 cu. ft. plaster and mortar mixers, tilting and non-tilting cement mixers, concrete carts, mortar boxes.

MULLER MACHINERY CO., Inc.

Metuchen 4, New Jersey



12 Regional Offices to help you use Brick and Tile more effectively

Service to the building profession—at the local level—is one of the most important functions of the Structural Clay Products Institute.

To accomplish this we have set up 12 regional offices at points shown on this map of the United States. Each of these offices carries out the national program of SCPI in its own area. Each has an executive and engineering staff to work with you and help you use Structural Clay Products more effectively.

Here are some typical questions answered by these regional offices every day. Perhaps you have similar questions.

"What are the latest developments in brick and tile research?"

"Can you send me data on the savings possible through modular coordination?"

"Do you know where I might inspect several good examples of cavity wall design and construction?"

"What is the best reference source on brick or tile engineering? Can you send me a copy?"

"Do you have a planbook on modern brick homes?"

"Is there a manufacturer in this area who makes brick of a certain color?"

"How do we set up a masonry apprentice training program in our county?"

Whether your questions cover RESEARCH, DESIGN, CONSTRUCTION, LITERATURE, COLORS, SHAPES, SIZES, APPRENTICE TRAINING, PRODUCT PERFORMANCE, or some other related problem, you can get prompt efficient service at our 12 regional offices—or at our national headquarters.

Won't you please call on us at any time. We welcome the opportunity to help you use brick and tile more effectively.

12 regional offices to help you—
STRUCTURAL CLAY PRODUCTS INSTITUTE, 341 State Street, New Haven 10, Conn.; 1949 Grand Central Terminal, New York 17, N. Y.; 1518 Walnut Street, Philadelphia, Penna.; 306 Market Avenue, North, Canton, Ohio; 502 Benedum Trees Building, Pittsburgh 22, Penna.; 228 N. LaSalle Street, Chicago 1, Illinois; 120 1/2 Welch Avenue, Ames, Iowa; 208 Kittredge Building, Denver 2, Colorado; 55 New Montgomery Street, San Francisco 5, Calif.; Central Building, Seattle 1, Washington. **CLAY PRODUCTS ASSOCIATION OF THE SOUTHWEST**, Littlefield Building, Austin, Texas; First National Building, Oklahoma City, Okla.

MAIN OFFICE

Structural Clay Products Institute

1520 18th Street, N. W. • Washington 6, D. C.

SCPI

Whatever Your Need... The Best Plywood is Weldwood Plywood

Whenever you need plywood—or doors—of any type, in any quantity, it will pay you to insist on Weldwood for these important reasons:

UNIFORM HIGH QUALITY because United States Plywood Corporation, the world's largest manufacturer and distributor of plywood, doors and allied products, has complete control of production from forest to finished product.

PROMPT DELIVERY is assured by our 15 modern mills, 45 conveniently located warehouses and thousands of dealers all over the country.

PUBLIC ACCEPTANCE—your customers know and respect the Weldwood name, they recognize it as the standard of quality.

For additional information on any of the products described on these pages just fill in the coupon and mail today.

WELDWOOD® DECORATIVE HARDWOODS—for Fine Interiors

Algoma Grade Weldwood is the finest hardwood plywood made in this country. All veneers are individually inspected and face-matched and every panel must pass rigid inspection for quality, beauty and uniformity.

This superlative grade of Weldwood is made in a wide variety of woods including birch, walnut, oak, Korina, maple, mahogany, elm, de oro, prima vera and avodire. Panels are 24", 30", 36" and 48" wide by 48", 60", 72", 84" and 96" long, in thicknesses of $\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " in veneer construction and $\frac{1}{2}$ " in lumber core construction. Also in counterfronts 144" x 28", 36", 42", 48", $\frac{1}{2}$ " thick in lumber core construction.



This label on the back of the panel identifies the finest grade of decorative plywood.

Craftsman Grade Weldwood is a new, lower priced grade of Weldwood made in straight-line, large-volume production at our new plant in Orangeburg, S. C. It is an excellent, high-quality panel that is surpassed only by our superb Algoma Grade Weldwood.

Costing up to 30% less than other brands in the same woods, Craftsman Grade offers many new opportunities to capitalize on the proven sales appeal of Weldwood paneling.

Craftsman Grade Weldwood is available in birch, oak, walnut and Korina in $\frac{1}{4}$ " panels 48" x 72", 48" x 84" and 48" x 96".

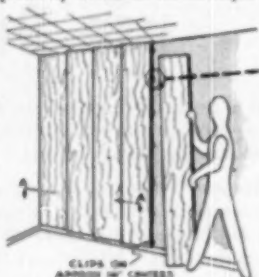


Look for this label on the back of every Craftsman Grade panel.

Plankweld®—Here's a brand new development—a pre-finished Weldwood panel designed especially for fast, economical installation over existing walls. It is ideal for remodeling work. Edges are grooved so they fit into each other and are held in place by invisible metal clips.

This method of installation provides an interesting fine shadow line which adds to the attractiveness of the finished job. The factory-applied finish is superior to most finishes applied on the job.

Plankweld is presently available in birch and oak. Other woods will be added. Panels 16 $\frac{1}{4}$ " wide; 96" long and $\frac{1}{4}$ " thick, packed 10 panels to a carton, with metal clips.



Especially suited for remodeling, Plankweld is easily installed over existing walls with simple metal clips.

Weldtex® Panels and Pre-cut Squares—In addition to the ever popular Weldtex panels, this attractive striated Weldwood is now available in pre-cut squares 12" x 12", 16" x 16" and 24" x 24", all $\frac{1}{8}$ " thick.

The grooved surface of Weldtex gives this material a decorative beauty that has made it popular for homes and commercial uses. The new pre-cut squares are ideal for ceilings and checkerboard wall treatments.

Weldwood Moldings—Weldwood moldings, designed for easy, attractive installation of Weldwood paneling are made of extruded aluminum with the exposed faces of genuine wood veneer. Designed for $\frac{1}{8}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " panels, Weldwood moldings are made in 7' and 8' lengths in four styles—cap, divider, inside corner and outside corner in oak, mahogany, walnut, Korina and maple.

Weldwood also Means The Best and Most in Doors

United States Plywood Corporation is also one of the world's largest manufacturers and distributors of doors for a variety of building needs. All these are available in a wide range of standard sizes.

Weldwood Lumber Staved Core Door—a moderately-priced flush veneer door recently added to the Weldwood line. The solid lumber core means it can be hung from either side, custom-cut openings are easily made. Available in all the most popular woods for either exterior or interior use.

Weldwood Fire Door—the only wood-faced fire door which bears the Underwriters' label and approved by them for Class B openings. Made with a fire-

proof mineral core, faced with fine wood veneers, these flush doors are as beautiful as they are safe—a must for Hospitals, Schools, Institutions, Offices and Apartment Buildings. They are light in weight, dimensionally stable and moderately priced.

Weldwood Standard Mineral Core Door—an excellent interior and exterior flush veneer door similar to the Weldwood Fire Door but without fireproofed edge banding. Will not swell in summer or shrink in winter. Made with a variety of hardwood faces.

Mengel Hollow-Core Flush Door—a lightweight low-cost door with a grid core that is durable and warp-resistant. Made with a variety of hardwood faces.

WELDTEX SIDING

Made of exterior grade Fir Weldtex, these pre-cut panels are 48" wide, 15½" long, ½" thick, and fit perfectly on 16" studding. The panels go up fast, joint lines are invisible, nails are concealed by the grooving. Savings up to 70% in labor costs have been reported.

Weldtex siding takes paint or stain beautifully and is approved by F.H.A. Packed 20 panels per bundle.

WESTINGHOUSE MICARTA

Westinghouse Micarta® is a durable, colorful, highly decorative plastic laminate widely used for work surfaces and wall surfacing in kitchens, bathrooms, stores, hospitals, restaurants, hotels and wherever an attractive, durable, easily cleaned surface is needed.

Micarta is unaffected by boiling water, cleansers, alkalis, dilute acids and food products. It is highly resistant to scratching, cracking, chipping and denting. Available in 32 colors and patterns in three types: Micarta sheet, ½" thick; Micarta-covered plywood panels, ½" and 1¼" thick for table and counter tops; Micartaboard, ½" thick for wall applications.

Micarta is made by The Westinghouse Electric Corporation and distributed exclusively by United States Plywood Corporation and U.S.-Mengel Plywoods, Inc.

DOUGLAS FIR WELDWOOD

Both interior and exterior Douglas Fir Weldwood in a complete variety of grades, sizes and thicknesses are available from stock in all our 43 warehouses and most dealers. Use this versatile material for sheathing, sub-flooring, roof decking, concrete forms and general utility.

FINISHING MATERIALS

Fireite®—the ideal undercoat for fir plywood and other soft woods, tames the wild grain, minimizes checking and grain rise, gives smooth base for painting.

Satinlac®—the best brush-applied finishing material for decorative Weldwood and other hardwoods. It enhances the natural beauty of the wood, does not turn yellow and gives full protection.

Weldwood Glue®—the most popular wood-to-wood glue—quick to mix, easy to use, tremendously strong, stain-free, rot-proof and permanent.

*Reg. U.S. Pat. Office



WELDWOOD PLYWOOD

Weldwood Plywood is manufactured and distributed by:

UNITED STATES PLYWOOD CORPORATION U.S.-MENDEL PLYWOODS, INC.
New York 18, N. Y. Louisville 1, Ky.

Distributing units in Albany, Baltimore, Boston, Brooklyn, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Evans, Glendale, Hartford (East), High Point, Indianapolis, Knoxville, Los Angeles, Milwaukee, Newark, New Hyde Park (L.I., N.Y.), New York, Oakland, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, San Francisco, Seattle, Spokane, W. Paul, Washington, D.C. Also U.S.-Mengel Plywoods, Inc., distributing units in Atlanta, Birmingham, Dallas, Houston, Jacksonville, Kansas City, Reno, Louisville, Memphis, New Orleans, San Antonio, St. Louis, Tampa, In Canada: United States Plywood of Canada, Limited, Toronto. Send inquiries to nearest point.

UNITED STATES PLYWOOD CORPORATION

55 West 44th Street, New York 18, N. Y.

Please send literature on the following:

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Company _____

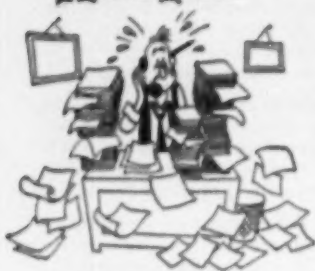
Address _____

City _____ State _____

DISTRIBUTORS! DEALERS!

We're buried in SALES
... need help to dig out!

Art - Iron



A few years ago, we started making the finest ornamental iron work skill can produce. Our costs were low and, not knowing better, we sold direct to the building trade and architects.

THEN ...

A fast-talking advertising man said: "Use some trade papers!" We did, and what happened? We got swamped with orders.



NOW WE'RE ALL SNAFUED ...

We got behind and don't know when we'll catch up. We need help! If we can get out of the sales end, we'll have more time to manufacture and design.



SO.....

If you're a distributor or dealer who can handle the finest ornamental iron work made (nice profit—you'll like it) wire, phone or write. There's a lot of business all ready to be picked off. Plenty advertising help, too.

Write to Dept. A

ARTCRAFT
ORNAMENTAL IRON CO.

724 E. Hudson St., Columbus 11, Ohio

FHA Amendments to Conform to Supreme Court Ruling on Racial Covenants

Franklin D. Richards, FHA commissioner, made the following statement in explanation of the forthcoming amendments to FHA rules, announced Dec. 2:

"The essential statement regarding this action is the following paragraph from the initial public statement: 'Under the amendments to be issued no property will be eligible for FHA mortgage insurance if, after a date to be specified in the amendments and before the FHA insured mortgage is recorded, there has been recorded a covenant racially restricting the use or occupancy of the property.'

"The date referred to is a future date which will be covered in the amendments when they are issued. The amendments will be issued sufficiently in advance of the effective date to put all interested parties on notice.

"The FHA amendments are being made to bring our policies fully in line with the policy underlying the recent Supreme Court decisions to the effect that, although individuals may be free to impose or comply with restrictive racial covenants, governmental support of such covenants is contrary to the public policy of the United States and cannot be enforced by State or Federal Courts.

"I want particularly to call your attention to the following facts, misunderstanding of which will distort and misrepresent the action that the FHA is taking:

"The amendments will apply only to properties on which racially restrictive covenants are filed of record after the effective date yet to be announced.

"The amendments will further require the mortgagor to certify that until the insured mortgage is paid in full or the contract of insurance otherwise terminated, he will not file for record any restriction upon the sale or occupancy of the mortgaged property on the basis of race, creed, or color or execute any agreement, lease or conveyance which imposes any such restriction upon its sale or occupancy. The amendments will also require the insured mortgage to contain a covenant to the same effect which in the event of violation will give the mortgagee the right at its option to declare the unpaid balance of the mortgage immediately due and payable.

"These amendments do not affect property on which such covenants are in effect prior to the date to be announced.

(Continued on page 160)

This ADDING MACHINE Adds and Subtracts FEET and INCHES!



and
only
\$12.95

No other ADDING MACHINE matches all of Addometer's advantages

Handiest helper on construction jobs you ever saw! Adds, subtracts FEET AND INCHES and 1/2 fractions quickly, accurately—right on the job. Only 11 1/2" x 4 1/2" in. size, weighs 14 oz.; 8-column capacity; single stroke dial clearance. Also adds dollars and cents up to \$10,000.00.

"Can't Do Without It," Users Say
Contractors, architects, engineers, highly praise Addometer's advantages—thousands in daily use.

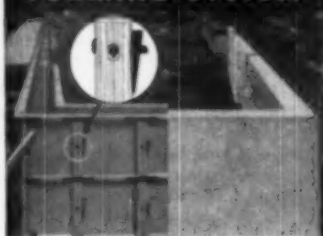


Money-Back Guarantee

The Addometer is yours for only \$12.95, postage prepaid—15-day money-back guarantee if not fully satisfied. Descriptive folder on request—or, send check or money order NOW.

Available Typewriter & Adding Machine Co.
Dept. M-1, 303 W. Monroe St., Chicago 6, Ill.

SYMONS FORMING SYSTEM



SAVES TIME

Just show how Symons System saves time in erecting and stripping forms. Built piece through 2 x 4 studs and no lags. Wedge secures the assembly. The simple device cuts forming time 50%.

SAVES LABOR

Harry G. Dahring, Foreman, Taylor Brothers, South Bend, Ind., states: "Seven men set up the forms for a 20' x 27' foundation in one hour and fifteen minutes."

SAVES COST

With Time and Labor cut in two ... Plus savings in nails, spreaders, walers and bracing ... Plus for greater reuse of forms ... Costs drop to a new low.

RENTED WITH PURCHASE OPTION

WRITE TODAY FOR FREE CATALOG

SYMONS CLAMP & MFG. CO.

4261 DIVERSEY AVENUE

(CHICAGO 28, ILLINOIS)

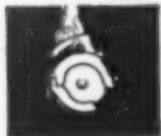


PORTER-CABLE *Speedmatic* SAW



**It's BALANCED
2-WAYS...**

1. It's BALANCED When You Lift It!



Simply pick up a Speedmatic Saw at your distributor's. See for yourself how perfectly it balances—no tip—no veer—no twist. You can hang it from one finger. That's *Static Balance*—the first step in easier sawing. *Speedmatic Has It!*

2. It's BALANCED When You Use It!



Now pull the trigger and start sawing. Note that Speedmatic balanced "feel" in action—how easily it handles—how it "always" your guidance—no power jerk. That's *Dynamic Balance*—balance in action. *Speedmatic Has It!*

RESULT—No wasted energy in this saw! You get sure, steady, speedy cutting without pushing or forcing • Perfect accuracy, too—you can always see your cutting line, even when bevelling or angle cutting • As for safety . . . your Speedmatic starts safely (without veer)—saws safely (on extra-broad base)—finishes safely (with saw resting on main piece) • It handles so easily, you can do one-handed sawing even from the most awkward positions • One glance at the sturdy, streamlined aluminum housing—one "feel" of its free-running, helical gear drive—will convince you that your Speedmatic is built—and balanced—to last. Try one today.

And that's Not ALL!

To help you to mechanize every possible operation and cut costs, your Speedmatic distributor has a complete line of these balanced, quality electric tools—Speedmatic saws, Sanders, routers, mortisers, planes, grinders, floor Sanders and edgers—and other masterpieces of Balanced Design.

PORTER-CABLE MACHINE CO.

3001 N. Salina St., Syracuse, N. Y.

MANUFACTURERS OF SPEEDMATIC AND GILD ELECTRIC TOOLS
In Canada, White to Birmingham, Ltd., St. Catharines, Ont.

The BALANCED Line

OREGON  WASHINGTON

When the job needs Plywood DOUGLAS FIR PLYWOOD fills the need!

Manufactured in improved interior types and weather-proof exterior types—for all construction purposes. See your nearest lumber dealer.

Oregon-Washington Plywood Company

General and Sales Office

1549 Dock St., Tacoma, Washington

Mill at Garibaldi, Oregon

OREGON  WASHINGTON

FHA Amendments

(Continued from page 158)

"They do not affect mortgages insured or commitments issued prior to such date.

"These amendments do not attempt to control any owner in determining what tenants he shall have or to whom he shall sell his property.

"Compliance with these amendments will be established by certifications of the mortgagor and the mortgagor.

"The amendments will apply to insurance under Titles II, VI, and VIII of the National Housing Act and to guaranties of yield under Title VII. They will not apply to Title I insurance. It has been announced that the Veterans Administration will issue similar amendments with respect to home loans under the Servicemen's Readjustment Act."

L. P. Lewin Dies; Was Leader of NRLDA for Many Years

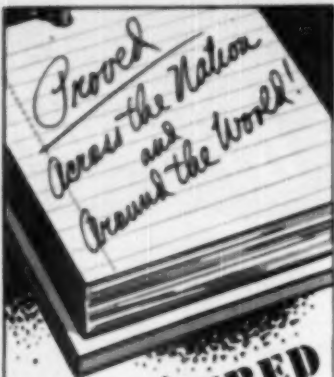
L. P. Lewin, nationally prominent lumber dealer and former NRLDA president, died at his home in Cincinnati, Dec. 9, at the age of 78.

A strong advocate of organization for the industry, Mr. Lewin for many years devoted his time and personal resources to the building of both state and national dealer groups. He was president of the Ohio Association of Retail Lumbermen for four years, 1921-24, and NRLDA president for the four years from 1927-30. He was NRLDA treasurer during the depression years 1933-36 and played a major part in keeping the organization intact during this time.

Mr. Lewin was born in Aberdeen, Miss. During his active days in the industry he was associated with his two brothers, Henry J. and Adolph M. Lewin, in the operation of the A. M. Lewin Lumber Co. of Cincinnati. He had been retired for four years and the A. M. Lewin company liquidated.

Designs for Kitchens, Laundries In New 12-page Brochure

A new 12-page brochure containing 10 plans for kitchens and laundries titled, "Modern Designs for Kitchens and Laundries" has been published by the New Freedom Gas Kitchen Bureau, American Gas Association, 420 Lexington Ave., New York 17, N. Y. The three-color presentation offers a good variety in layout and room sizes to accommodate many different types of requirement for these facilities. The designs were created by C. K. Hirsch, A.I.A. The brochure costs 10 cents per copy.



ENGINEERED HOUSING

The answer to any critical housing shortage! Proved by projects from New Jersey to Oregon, New Mexico to Kansas... Saudi Arabia, Australia, India, Mexico... the list goes on...

At Texas Housing Company, America's largest producer of non-metal homes, we take your plans or ours and tailor-fit them into mass production and your timetable. One house or a townfull!

For

- ★ COMMUNITY
- ★ INDUSTRIAL
- ★ SPECIALIZED NEEDS

No matter what you require, pre-cut and panelized homes, engineered from foundation to ridgepole, save time and money. Housing goes up fast where it's needed when it's needed! Engineered Houses are

- Architecturally Correct
- Designed for Economy
- Skillfully Engineered
- Made for Comfortable Living

Call, wire or write for our booklet, ENGINEERED HOUSES, for full details!

TEXAS HOUSING CO.

9001 DENTON DR. • PHONE D4-2401
DALLAS, TEXAS



ARMSTRONG'S CUSHIONTONE

easy to install
easy to sell . . .

Armstrong's Cushiontone is easy to handle, quick to install. Add this to the fact that Cushiontone is a well-known, nationally advertised product, and it's easy to see why it's now a profitable item for contractors and builders all over the country.

This efficient acoustical tile is the kind of material you and your carpenters are familiar with. It's made of sturdy, lightweight fiberboard—the same basic material used to make Armstrong's Temlok. 484 clean perforations in each 12 inch square give Cushiontone its high sound absorption. Two coats of factory-applied, washable white paint make it a practical, attractive ceiling, high in light reflection.

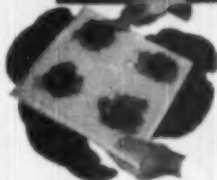
No special tools or skills are required to install Cushiontone. The two methods shown here may be used for almost all types of new construction or remodeling jobs. If work is to be done over good plaster, concrete, or gypsum lath, Cushiontone is usually applied with Armstrong's Acoustic Cement. Over bare joists, uneven plaster, and other surfaces unsuitable for cementing, furring strips are put up on 12" centers and the Cushiontone applied over building paper with nails or screws. Complete directions for installing Cushiontone are packed in every carton.

The ease and speed with which Cushiontone is installed make every job easier and more profitable to sell. For complete information about Armstrong's Cushiontone, see your local lumber dealer or write Armstrong Cork Co., 1601 Stevens St., Lancaster, Penna.



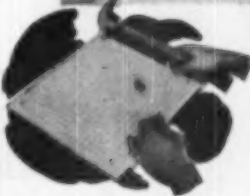
ADHESIVE METHOD

Apply cement spots to back of tile with putty knife, four per square foot. Keep spots 1" from edges. When installing, slide tile back and forth about 1" to spread cement and make tile face level.



NAILING METHOD

Use flat head or collar nails, with heads $\frac{1}{4}$ " to $\frac{3}{16}$ " in diameter, $\frac{1}{2}$ " longer than tile thickness. Use 4 nails per sq. ft. Start nails; then place tile, drive and set nails. (Do not set collar nails but finish flush with the surface of the tile.)



Armstrong's Building Materials

TEMLOK • INSULATING WOOL • MONOWALL • HARDBOARDS • CUSHIONTONE

Put **THIS** spring balance
in **YOUR** windows for...
ECONOMY
SMOOTH OPERATION
PERMANENT SERVICE
plus perfect weatherstrip
protection!

MASTER NO-DRAFT Sash Balance

Nowhere in the building does satisfaction mean so much to home owners than trouble-free windows. **SELL THIS FEATURE** with this combination unit. Equips both new and old sash. Eliminates weights and pulleys and painting. Made of non-corrosive metal and stainless steel for salt air locations or as a distinctive sales feature. Tested and proved in thousands of installations including government buildings.

Write today for complete information and specifications.

See Master No-Draft demonstration at our Booth in space 117 at the National Association of Home Builders Show at the Stevens in Chicago, Feb. 19-23

mail coupon
now...

MASTER METAL STRIP SERVICE

1720 N. Kilbourn Ave., Chicago 39, Ill.

Please send me, without obligation, complete information about Master No-Draft Sash Balance.

NAME _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____

CORTRIGHT ...

(Continued from page 61)

standing authorities, and the opportunity to exchange experience and ideas with thousands of other outstanding builders, is becoming an "annual must" to the leaders in this industry.

The best evidence of the value of this is found in the fact that nearly 15,000 persons, members of the National Association of Home Builders and non-members alike, register in each February to equip themselves for maximum success in the year ahead. (Non-member builders are welcome.)

As only one of the many valuable services of the National Association of Home Builders, this convention typifies the invaluable results obtained when an organized industry and its trade journals cooperate in reaching a high objective—in this case the production of constantly better homes in maximum volume within the reach of every segment of the American people.

Hats off to Sam Dunn, his able staff and all other publishers of journals in the home building field!

Forest Products Organization Headed by Alabama Lumberman

N. F. McGowan, of the W. T. Smith Lumber Co., Chapman, Ala. was named president of the American Forest Products Industries, Inc., by the organization's board of trustees at their annual meeting Nov. 3 at the Mayflower Hotel, Washington, D.C. He succeeds Sydney Ferguson, president of the Mead Corp. of New York, president for the past two years.

Others selected for office included: vice presidents, Walter J. Daintoft, Champion Paper and Fibre Co., Canton, N.C. (re-elected) and Clyde S. Martin, Weyerhaeuser Timber Co., Tacoma, Wash.; treasurer, P. H. Glatfelter, P. H. Glatfelter Co., Spring Grove, Pa. (re-elected); chairman of the board, Col. William B. Greeley, Seattle, Wash. (re-elected); and secretary, Charles A. Gillett, Washington, D.C. (re-elected).

The organization, which maintains headquarters in Washington, D.C., is national sponsor of educational programs in forest fire prevention and woodland management. Its projects include Keep America Green, the American Tree Farm System and More Trees for America.

Expect 100,000 at Home Show

Between 70,000 to 100,000 persons will visit the Seattle Home Show Jan. 28 to Feb. 5, according to an estimate by V. O. Stringfellow, president of the Seattle Master Builders Association, sponsor of the event.

THE POWDER-ACTUATED FASTENING TOOL *Comes of Age*

After Months of Laboratory Experimentation... After Thorough "On-the-Job" Testing... We Proudly Present the New and Amazing DRIVE-IT "300" the Powder-Actuated Fastening Tool Our Customers Asked For.

THE BIRTH OF THE DRIVE-IT IDEA

Three years ago Powder Power introduced the most revolutionary and efficient fastening method known. It was the DRIVE-IT powder-actuated tool... a tool that utilized a small power charge and a hardened steel "drive-pin" to fasten steel or wood to concrete or steel. Fastening with this tool was a split-second operation—eliminating the drudgery of drilling or hammering—saved contractors hours of time and thousands of dollars. In short, it was a bonanza for everybody



who had a steel or wood to concrete fastening problem. Thousands bought DRIVE-IT tools and letters of praise for their money-saving effectiveness flooded in.

PRESENTING... THE NEW DRIVE-IT "300"

Months ago our engineers went to work to design an entirely new and better powder-actuated tool... one which would embody all of the features our customers asked for. The result is the DRIVE-IT "300".

Here it is... it's ready for you NOW. Check these features and you'll realize why we say: "The new DRIVE-IT '300' is the only truly modern, efficient and safe powder-actuated tool on the market!"

1. POSITIVE 3-WAY SAFETY.

1. Permanently attached, adjustable safety pad. Can be used in restricted places.

2. Cannot be fired accidentally. Tool must be depressed against solid surface to be fired.

3. No hitting or lunging to fire—a twist of the wrist does it... automatically!

2. "CONTROLLED POWER" with one power charge. No need to buy 4 or 5 different charges.

3. 40% MORE POWERFUL than any other "22" tool. More power means deeper penetration, greater holding strength, more versatility.

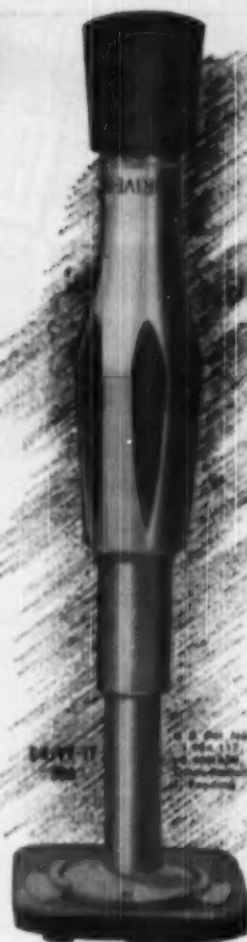
4. AUTOMATIC EXTENSION BARREL for tight places—no need for extra, expensive extension barrels.

5. LIGHTWEIGHT. Tool weighs only 5 lbs. 10 ozs. Makes overhead work easy. Can use for hours without tiring effects.

6. LESS NOISE. Tool is much quieter in operation—easy on the nerves.

7. FLANGELESS DRIVE PINS. Easier to handle—cheaper to buy. No "ring" to dig out of tool after firing. No area exposed to corrosion on plated pins after driving.

There it is, mister! A powder actuated tool with the "bugs" out. One that can save you up to 75% in fastening costs and still keep your workers happy. Do yourself a favor and send for the whole story today!



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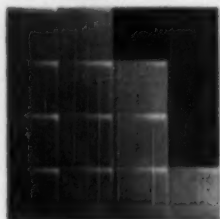
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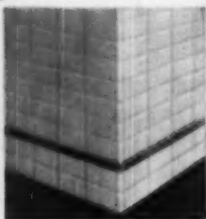
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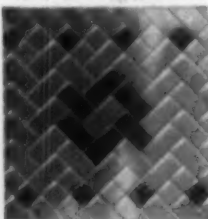
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DEPARTMENT 103A, HASTINGS, MICHIGAN

NAREB Speakers

(Continued from page 58)

good for the next five or ten years," he declared.

Warnings against socialism, generally expressed by every speaker at the convention, were forcibly brought out by Alfred P. Sloan, Jr., chairman of the board of General Motors Corp., Rep. Jesse P. Wolcott (Rep., Mich.), and Sen. Kenneth S. Wherry of Nebraska.

"Human progress today is very definitely in jeopardy by the progressive encroachment on its greatest asset—freedom," Mr. Sloan declared. "We are losing gradually, but surely, our liberties. . . . To my mind there is a great need for techniques that will tell the people at the grass roots level, in language they can understand, the simple economic truths that govern our well being," he added. Mr. Sloan received the 1949 Industrial Award from the Society of Industrial Realtors at the convention for his significant contribution to the welfare of the people. The award was presented by Harold E. Stassen, former Minnesota governor.

Wolcott stated that "This country is within 8 per cent of socialism." He explained this by adding that when 35 to 40 per cent of income is taken by government, either in the form of taxes or deficit financing, that country cannot escape socialism. He said that 32 per cent of the income of the American people is now taken for government expenditure.

Every time the clock ticks, the government spends \$250 more than it takes in, Senator Wherry asserted in his warning against government extravagance.

Newly elected president of NAREB is Robert P. Gerholz, Flint, Mich. The treasurer is H. Walter Graves, of Philadelphia, Pa.

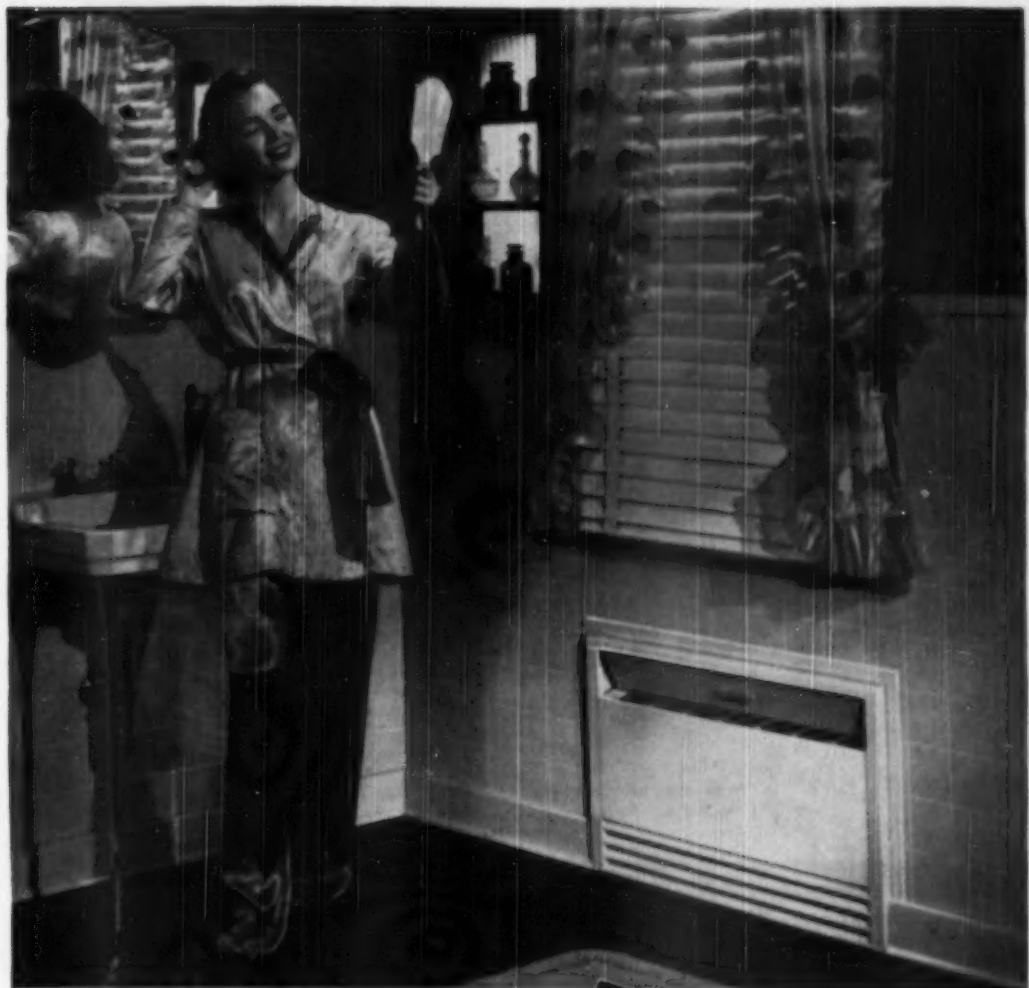
Clay Inst. Re-elects Goodwin

W. J. Goodwin, Jr., Des Moines, Iowa, brick manufacturer, was re-elected president of the Structural Clay Products Institute at the recent convention of the Institute at the Greenbrier Hotel, White Sulphur Springs, W. Va. Also re-elected for another year were C. Forrest Tefft, Columbus, Ohio, vice president; W. Gardner Long, Boston, Mass., treasurer; and Joseph J. Cermak, Washington, D.C., secretary.

More than 400 brick and tile manufacturers and dealers attended the meeting. Among the prominent speakers were Raymond M. Foley, HIFA administrator who, in an address at the annual banquet, lauded the research provisions of the Housing Act of 1949.

A 19-year-old bricklayer apprentice, Charles Adams of Conway, Ark., was awarded the Belden trophy, first place award in the first national apprentice brickmason competition.

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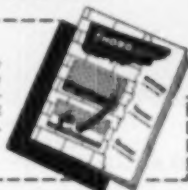
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June 13, 1949

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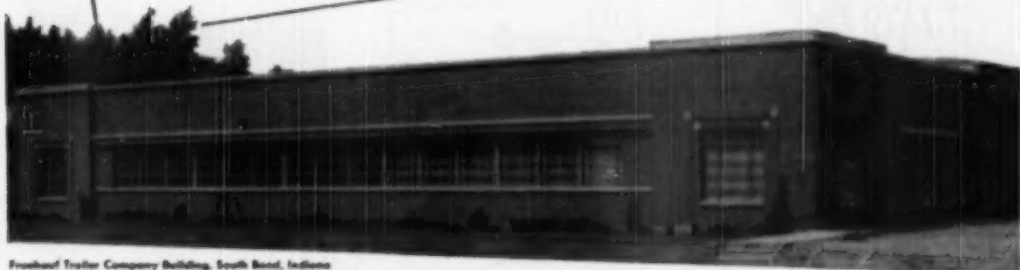
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Increasingly, masons and contractors, like Mr. Taylor, report similar satisfaction with Atlas Mortar Cement. Masons prefer its buttery plasticity and the easy way it responds to the trowel. And contractors appreciate its satisfactory yield, its strength and color. Its outstanding durability is proved by rigid laboratory tests.

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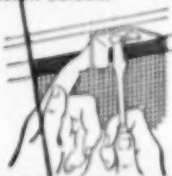
...Frameless Tension Screen

At "Live Oak Park", New Orleans, Louisiana, Jones Brothers, Builders are erecting 63 homes equipped with new Keystone Frameless Tension Screens. A test installation on the first ten homes convinced A. T. Jones of the economy of this new all aluminum screen. He claims they have saved in two ways: First, **SAVING OF MATERIALS** and Second, **SAVING IN TIME**.

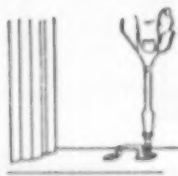
"We install Keystone Frameless Tension Screens in approximately 5 to 8 minutes whereas previously our carpenters spent from 30 to 40 minutes fitting, painting and installing hardware on regular framed screens. (Cost of new Keystone complete screens is usually less than an unpainted, unfitted regular screen.) "Furthermore," Mr. Jones relates, "Our realtor uses this new Keystone tension screen as an extra attraction and clients are well pleased with the way the screens fit—neat, non-staining and handy!"

SAVE TIME—SAVE MONEY on every window by getting complete details, prices and specifications today on this new modern idea in complete screens.

HOW TO DO IT... A few screws and simple sill brackets are all you use to install this Pre-fitted Keystone Frameless Tension Screen.



Round headed screw installed in top blind step holds removable top bar bracket.



No bulky hardware on sill... just a neat, small, permanent bracket.



Catch at sill engages sill fixture. Note that fixture is easily adjusted for proper tension.



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Hanover, Pennsylvania

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AB-31

New Concept in Kitchen Range Design Announced by Landers, Frary & Clark

A dramatic new development in the whole conception of kitchen range design has been announced by Landers, Frary & Clark, New Britain, Conn. Their new Select-A-Range is made up of modular units—three



LEFT HAND convenience-level oven and adjacent cooking surface separate work area of the kitchen from breakfast nook.

basic, interchangeable, independent, self-contained parts. The oven, a surface cooking unit and standardized drawers can be arranged in more than 25 different combinations to fit any desired kitchen arrangement from the bare minimum to the most elaborate.

The oven and surface units can be placed in any location at any height desired. They can be assembled as a



OVEN and surface unit are separated for convenience and are at right angles

conventional range with the convenience-level oven height or they can be separated into individual units. Because each unit can be purchased separately the consumer need buy only what is required to start. Additional units can be added later. All sections fit together exactly and uniformly.

This new system of manufacturing kitchen range parts on a modular basis—parts which are interchangeable in a host of different combinations—immediately relieves kitchen planners of the necessity of setting aside a block of space somewhere and labeling it for the range. These

(Continued on page 178)



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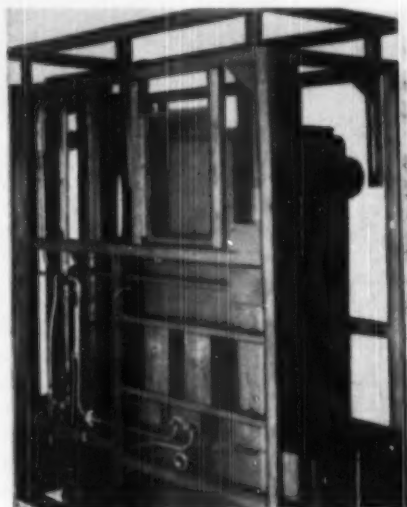
**New Utility Unit Has
Simplified Design**

A NEW utility unit of simplified design, well-adapted to existing practices in the building trade, is being produced by Lankton Industries, Inc., Peoria, Ill.

Three models of the unit are currently in production. Models 1 and 2 contain furnace, water heater, plumbing stack, venting and copper water tubing in a central core. Bath and kitchen fixtures are located on opposite sides of the core.

Model 3 has two separate units—a panel core and a furnace-water heater unit. The panel core is between the bath and kitchen and contains plumbing outlets for both rooms. The furnace and hot water unit may be located in either basement or utility room and connected with the core in the conventional manner.

The central core for Models 1 and 2 is 30 inches wide, 66 inches long and 77 inches high. It is made of 1½-inch steel channels welded into a frame. The outside face of



REAR view of central core of Models 1 and 2

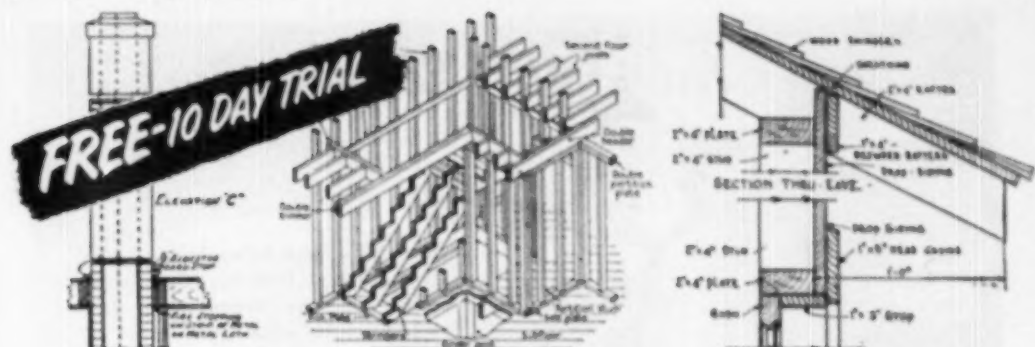
these channels has a wood nailing strip crimped in the channel for the application of lath and plaster or the board type of wall finishes.

The Model 2 unit is provided with two wings of steel channel with crimped wood nailing strips which form a storage area 2½x2½ feet. There is an access door to the exterior, which permits servicing of unit and provides space for meters, silencers and general storage.

Model 1 has one wing of steel channel with crimped wood nailing strips forming a partition between kitchen and bath. With this model a corner tub is used. The tub is recessed 2½-feet in back of the unit, reducing the space required for bath. Access to water heater in this model is provided by an enameled steel door above the rim of tub.

The central core of the Model 3 unit is 8 feet long, 77 inches high and 8 inches wide, and is equipped with wood nailing strips in steel channels.

An adjustable soffit is provided on all cores and attached wings, eliminating framing above unit.



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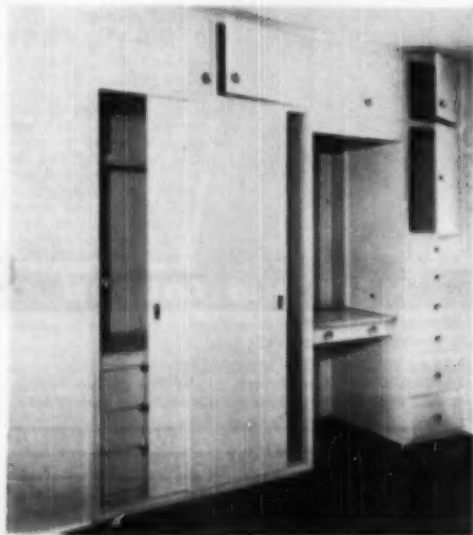
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A SUCCESSFUL triangle, with emphasis on youth. Standing left to right: William J. Gilmore, builder; Gilbert D. Spindel, industrial and small homes designer, and S. C. Henderson Jr., builder, all of Jacksonville, Fla.

PARTIAL view of 87 houses, right, now under construction or completed. Movement of work in the field is accelerated through use of pre-assembled units. Typical bedroom cabinet wall shows below



Economy Built-ins Speed Sales

Two GI's who have been active in the home building field since their release from navy and whose combined ages total 47 years, tackle mass building job with fresh ideas and methods that are proving successful

S. C. HENDERSON, Jr., and William J. Gilmore, partners in Henderson & Gilmore, Inc., Jacksonville, Fla., met while attending Georgia Tech., and it was there that these young men conceived the idea of a construction firm. During their tour of duty in the navy as ensigns on the same cruiser, following their days at Tech., they worked out the details of the proposed business, and the corporation was formed when they were released from active duty. During the first two years of operation, this firm has completed 83 homes of frame, brick veneer, concrete block and stucco construction ranging in price from \$6,000 to \$13,000.

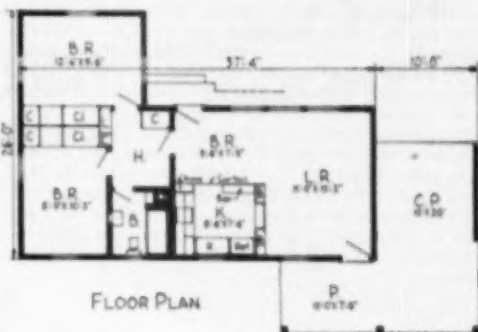
The present economy house program, which includes 87 of the "Cabinet Wall" planned houses, was started in the second year of the company's operation. This group of houses is part of the development called Southside Estates, located on the outskirts of Jacksonville, Fla. These homes are now selling for \$7,500. The price includes the basic construction of the house, porch, carport, building lot with 100 foot frontage, electric range, refrigerator, water heater, space heater and carpets for all rooms except kitchen and bath which have asphalt tile floors, venetian blinds for all windows and ample storage and cupboard space created by the "Cabinet Wall."



THE "Cabinet Wall" house introduces the free use of interior space by means of an exterior structural shell and roof trusses

Gilbert D. Spindel, industrial and small homes designer, has successfully used the "Cabinet Wall" plan in the Southside Estates development. This method presupposes the use of roof trusses to transfer roof loads to exterior bearing walls and the elimination of bearing partitions within the perimeter of the house. "Cabinet Walls" placed according to design serve a dual purpose by providing separation between rooms, and ample cupboard and wardrobe space. Savings in costs are thus made possible through practical economies established by reducing the number of square feet of floor area without sacrificing any of the space required for living area.

Spindel refers to the "Cabinet Wall" as engineered space. Place for card tables, folding chairs, china, actual built-in vanities, chest of drawers and tilt-out laundry hamper are all a part of the cabinet unit. In addition to the normal cabinets in kitchen there are extra cabinets for storage under a built-in breakfast bar, a designed space for canned goods storage, a built-in ironing board and



FLOOR PLAN

A UNIQUE feature of the house is the fact that each of the three exterior walls may be oriented for use as the main facade



ENGINEERED space is clearly evidenced in the cabinet wall that serves kitchen, living and dining area for display and storage



THE normal complement of kitchen cupboards and cabinets are supplemented by cabinet wall units that provide extra storage

general storage space over the opening between kitchen and dining room. In each bedroom is a wardrobe, vanity, chest of drawers and out-of-season storage. The hall contains a linen and broom closet and laundry hamper.

Another feature of the model house which is typical of all those erected under this economy program is the fact that the plan can literally be revolved around an axis, exposing each of the three sides of house to the street front. In addition the carport and porch can be placed in a number of different positions in the basic plan. This provides for a large number of exterior variations. A number of face materials on the exteriors, such as aluminum siding, double coursed cedar shingles, and conventional wood siding, offer variety. For a change of pace some are faced with brick veneer, concrete block and asbestos siding.

All houses are basementless. The floors are of four inch reinforced concrete. Over a puddled and tamped fill a built-up waterproof membrane is laid. This reduces moisture penetration. Concrete is poured into membrane area over No. 10-6x6 reinforced mesh. In this area the wall siding is laid directly on the studs. Hurricane braces are installed in a number of places in each of the walls. The inside walls are covered with rocklath and plaster, with a textured finish on all walls except kitchen and bath.

All construction work follows the standard precutting and site assembly methods. Jigs for wall sections and roof trusses are set up on site. Four men and one radial-arm saw do all the cutting and assembling of interior and exterior walls and roof trusses. These men cut and fabricate one house every ten hours. The fabricated unit is delivered to the site of house on a jig built up to fit on a $\frac{1}{2}$ -ton pick-up truck. While the "second-hauling" of the material costs a bit more, the pre-assembly of the walls and trusses more than compensates for the effort, not to mention the waste saving effected at the jigs and saws. Lumber for five houses is on hand at all times. At the house site four men erect the inner and outer walls, bolt shoe-plates to foundations and erect trusses in an average 9 $\frac{1}{4}$ hour period.



MANY variations in design can be obtained merely by relocating position of porch and carport in relation to several walls of house



PORTION of assembly yard on building site where trusses are fabricated on jigs. Units are stored on shown until used on the job



ASSEMBLY yard in back of warehouse and office showing jigs on which complete wall units are constructed ready for erection

Johns-Manville FLEXBOARD*

is unlike other Asbestos-Cement Boards...



One man can handle the big sheets

Exclusive J-M manufacturing process makes this fireproof, rotproof building board so strong and tough that it can be lifted and handled by one man without cracking or breaking. You save on time and labor, and avoid waste.



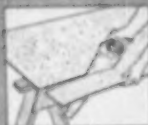
It can be nailed close to edge

Another advantage of Flexboard—you can drive a nail even close to edge of sheet without cracking or chipping... no drilling required! Moreover, Flexboard can be bent on either axis to a degree unmatched by any other product of its kind... a great advantage where curved surfaces are required.

Send for this FREE Handbook—Contains complete information about cutting and working Asbestos Flexboard. Drawings show how to apply it indoors or out... how to handle the joints, door and window openings, ceilings, and floors. Ask for the Flexboard Handbook. Johns-Manville, Box 290, New York 16, N. Y.



It's strong and tough, yet easily cut and worked



Hand Saw



Circular Saw



"Scum and Sump" by Hand



Small Holes



Large Holes

If a considerable amount of cutting is involved, we recommend that you use the J-M Shearing Jig which cuts 6 times faster than a hand saw. For further details send for the valuable Handbook described at left.

*Reg. U. S. Pat. Off.

JOHNS-MANVILLE
JM
PRODUCTS

"A definite aid

A. C. Flare,
Builder,
Washington, D. C.

DURALL



to me in selling houses"

**That's what one building man says about
this amazing new kind of window screen**

ALUMINUM TENSION SCREENS

Read what other builders say:

- "Very simple to install with no maintenance problems." E. L., Building Supt.
- "One man can easily install Durall screens in five houses a day with 15 screens in each." G. A. J., Carpenter.
- "I've been selling houses 15 years and I've had more favorable comment on Durall screens than any other item." C. D. K., Real Estate Salesman.
- "When they are up, they're up. No rechecking, refitting or adjusting. Never have any complaints." G. A., Carpenter Foreman.

Yes, the men who have used this remarkable new screen are giving it "rave notices."

Once you've used Durall yourself, you'll see why *everybody* likes Durall.

Durall is a completely new idea. It features

streamlined tension design and durable all-metal construction. It's aluminum, light, flexible, easy-to-handle, rustfree and paintfree for a lifetime!

Durall has no side frames to cut, fit and refit. It's wonderfully easy to put up or take down from inside. It *rolls up* for easy, compact storage. And it will stay good looking and serviceable for years to come.

Naturally these advantages make a big hit with home buyers. Put this sales-making "plus" in your houses and you'll join the hundreds of building men throughout the country who are already singing Durall's praises.

The present price at retail is only \$3.75 for an average size!

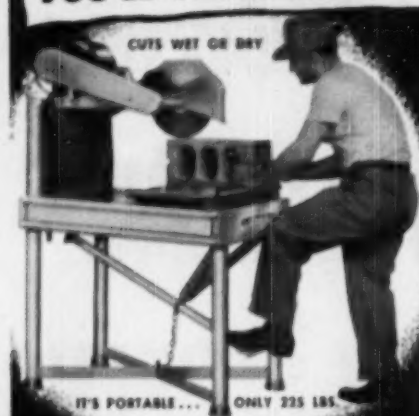
FREE BOOKLET! Write today for complete information about Durall, the *new* kind of window screen. Address: Desk AB-1. Or contact your building supply or sash and door jobber.

DURALL

ALUMINUM TENSION SCREEN

NEW YORK WIRE CLOTH COMPANY • 445 PARK AVENUE, NEW YORK 22, N. Y.

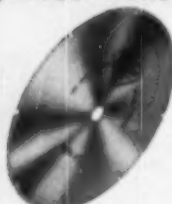
YOU'LL GET MORE PROFIT PER CUT



IT'S PORTABLE... ONLY 225 LBS.

WITH A
Valor
MASONRY
SAW
AND

Valor BLADES



DIA-MASONRY

For all Diamond
blade cutting



DRY-MASONRY

For all saws cutting dry



DUSTLESS-MASONRY

For all saws cutting wet

The amazingly low price of the Valor combined with its economy of operation make it the Greatest Value in Masonry Saws Today. It weighs only 225 lbs. and the head can be removed in 9 seconds for real portability. Seen, however, has not been experienced, since the Valor can handle dry material the heavier models do. Adding its two-hand-money saving features you will find the famous "Feed-matic" principle for automatically controlling blade pressure, a long headlife and which eliminates the necessity of constantly changing head positions for varying material heights, variable-speed control, skid-proof foot pedal with powerful chain stop, adjustable steel blade guard, and many others, all of which add up to more profit per cut for you.

VALOR BLADES are precision engineered to cut all types of material quickly and accurately and will fit all saws. Diamond or Abrasive blades for wet or dry cutting are available in different sizes with square, round or diamond profiles. They outlast ordinary blades yet are priced lower. Try them on your next job.

Valor service is available thru your local dealer whose factory trained men are always on hand to help you with your masonry cutting problems.



DESIGNED TO CUT ALL TYPES OF MASONRY MATERIALS



CONCRETE BLOCK
Dry or Wet cutting,
Abrasive
blades only



TILE
Dry or Wet cutting,
Abrasive or
Diamond blades



SEWER PIPE
Dry or Wet cutting,
Abrasive or
Diamond blades



FIRE BRICK
Dry or Wet cutting,
Abrasive
blades only



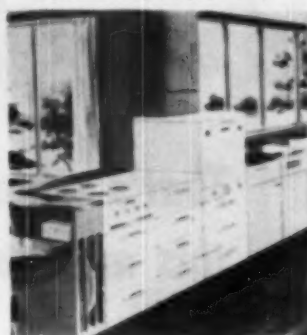
GLASS BLOCK
Wet cutting only,
Diamond
blades only

VICTOR ENGINEERING CORPORATION

WILSON AVE. AND GREEN LANE, BRISTOL, PA.

New Kitchen Ranges

(Continued from page 168)



OVEN and platform surface units are extended with extra capacity storage space between. Surface cooking unit is integrated with serving area in a peculiar arrangement to provide greater convenience.

range parts can be recessed in stock cabinets or custom millwork. They can be fitted together to develop a range with a right-hand oven, left-hand oven, double ovens, high oven, low oven, double surface cooking units, extra drawer storage space or a minimum amount of drawer space. The oven can be set apart from the surface cooking unit or can be adjacent to it.

Whether placed in new construction or in modernization jobs, the Universal Select-A-Range is equally adaptable to traditional, modern or ranch house architecture. Its flexibility makes it easily adaptable for apartments, hotels, hospitals, small restaurants and wherever modern cooking facilities are required.

Weatherstrip Institute Headed by J. A. Goellner

John A. Goellner of Monarch Metal Weatherstrip Corp., St. Louis, was elected president of the Weatherstrip Research Institute at the annual fall meeting of the organization recently held at the Union League Club, Chicago. About 25 manufacturers in the industry comprise the group.

Other officers named were: vice president, Joseph P. Glaser, Chamberlin Company of America, Detroit; treasurer, J. F. Dennis, W. J. Dennis and Co., Chicago; and secretary, E. H. Rodenbaugh, National Metal Products Co., Pittsburgh.

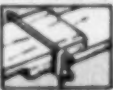
In addition to regular business, a paper called "Infiltration and Measured Heat Loss Through Windows" was presented by Prof. C. E. Lund of the University of Minnesota. The paper analyzed the results of tests conducted by the University for the Institute.

Sensational, New Level-Lock SCAFFOLD CLAMPS



SAVE . . . Lives, Time, Material!

Level-Lock Clamps prevent costly accidents due to shaky, springy platforms . . . save time, take only a few minutes to set up and adjust . . . save material. Level-Locks require no nailing or bolting, planks are held in a firm level position . . . reduce worker's fatigue, make walking easier, increase quality and quantity of the work. Level-Lock Scaffold Clamps are a must for every scaffold. Available at all leading hardware stores and building supply houses. Single 2"x24" double 4"x24".



Level-Lock Double Clamps for firm, safe joining where planks overlap.

Single Clamps \$3.75

Double Clamps \$4.25

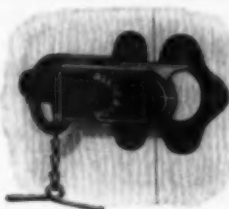
F.O.B. SOUTHPORT, CONN.

Level-Lock SCAFFOLD CLAMPS

BEECHER-LEE CORPORATION

SOUTHPORT, CONNECTICUT

It's Back!



The Famous ALLITH ALLIGATOR LATCH (No. 1)

is again available

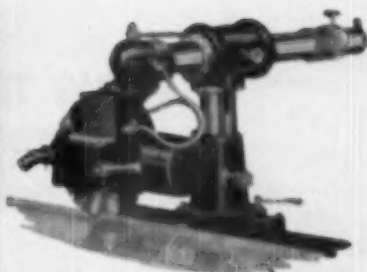
Improved with

STAINLESS STEEL SPRING

For real convenience on straight sliding doors, these latches have no equal. The spring jaws catch automatically when the door is closed. They hold securely and yet open easily, from either side of the door. Eyes for padlock in convenient position. Made of malleable iron, reversible for right or left hand doors.

ALLITH -PROUTY, INC

DANVILLE, ILLINOIS



The SENIOR

2

NEW MODEL COMETS

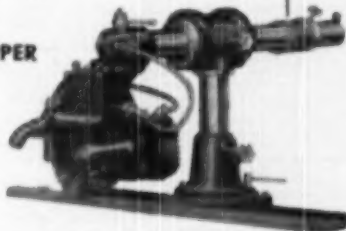
AT NEW LOW PRICES

Your money can't buy better saws than the new model Comets—the Senior and the Clipper. They include all the finest features developed in the power saw field. They make ALL the cuts with precision, power and speed. They last longer, are weather-proofed, and develop practically no parts-replacement costs—even after years of hard service.

Comets pay for themselves quicker, earn profits longer—for you! Profit dictates that you can't afford to cut without Comets.

New free literature tells all about these sparkling models. Ask your nearest Comet Dealer or write direct.

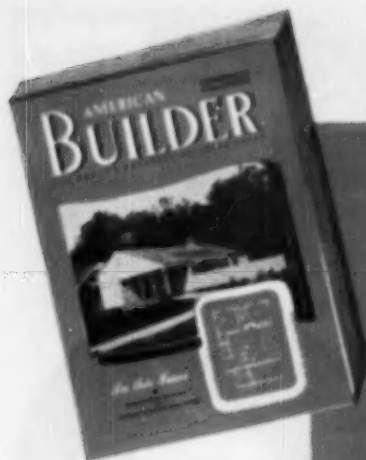
The CLIPPER



CONSOLIDATED MACHINERY & SUPPLY CO., LTD.
3029-33 Santa Fe Avenue, Los Angeles 31, California



COMETS cut quicker



Biggest Value

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- ☐ Builders and Contractors engaged in both Residential or Light Commercial or Light Industrial Building and Heavy Building Construction, not specializing in either.
- ☐ Contractors specializing in all types of Heavy Construction other than Buildings.
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WIRING NEWS

A PERIODICAL DIGEST OF WIRING IDEAS FROM THE GENERAL ELECTRIC CONSTRUCTION MATERIALS DEPARTMENT



Dream-home Lighting at Budget-home Cost

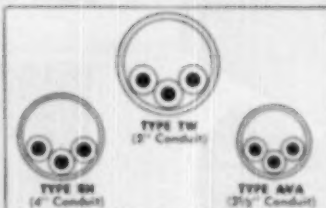
Today's prospective home buyers are harder to "sell." They insist on modern planning and conveniences . . . they look for extras . . . they demand proof of quality before they buy. That's why architects and builders recognize the value of the General Electric remote-control wiring system as a spur to added home sales.

This step-saving, new wiring system at last makes dream-home electrical control a reality. Simple and economical to install, it is easily demonstrated to the prospect. Unobtrusive flush switches at convenient locations give instant, positive ON and OFF control of any light or electrical apparatus. And, while you're demonstrating remote control, you'll have the added "sell" of the General Electric monogram.

For Low-Cost Homes

General Electric remote-control system is practical for even budget-price housing. Designed to fit in with existing techniques, remote control requires the same tools and methods needed to install present power circuits. Small relay snaps into knockout of outlet box. Inexpensive wire can then be run from relay to centrally-located transformer and conveniently-placed switches.

For further information why not contact your General Electric Construction Materials distributor, or check item (A) in the coupon below.



Here's How You Can Get 49% More Current Per Raceway

Now, there's a really easy way to increase circuit capacity without increasing raceway size — just rewire with General Electric Deltabeston® asbestos-varnished cambric cables!

Insulated with heat-defying asbestos, Deltabeston AWA cables meet the requirements for small-diameter cables in heavy-load jobs involving high temperatures. That's why at normal ambient temperatures (in dry locations, as specified by National Electrical Code) AWA cables can deliver up to 49%* more current per raceway than ordinary types of building wires.

Saves on New Work

In new construction, too, because of their heat-resisting asbestos insulation, AWA cables often permit smaller conductors, reduced raceway sizes, and over-all savings on weight.

If you have not considered asbestos-varnished cambric cables for space and materials savings, you'll do well to figure them in on your next heavy-load job. It may amaze you to discover what real savings Deltabeston AWA cables can offer.

For further information, consult your local General Electric distributor, or check box (B) in the coupon below.

* (This figure was worked out for AWA cables of 1000 MCM. Other sizes offer similar savings.)

You Know You're Right With "G-E White"

There's no question about it. You get top wiring protection when you use General Electric white rigid conduit.

Years of Protection

Carefully controlled in manufacture from raw material to final inspection, G-E White offers the advantages of a uniform, high-quality product. Top-quality steel, hot-dip-galvanized, inside and outside, means years of protection from atmospheric corrosion. Smooth Glyptal® finish adds plus protection, makes wire pulling easy and fast.

Installation Features

During installation you'll appreciate the uniformity of G-E White. You'll like the way it cuts waste by eliminating flat bends. The electrical contractor will like its sharp, clean threads, too.

For top protection specify General Electric white rigid conduit. And remember General Electric also supplies a complete line of fittings and accessories. For information on conduit, check box (C) in coupon.

Light Weight Makes Light Work Of Residential Wiring

Light weight . . . small diameter . . . easy stripping. These features make General Electric PVX® nonmetallic-sheathed cable a real time saver in all types of residential work.

Built to Last

Glass-and-cotton braid resists both moisture and flame. Individual conductors are insulated with a Type T thermoplastic compound and spiral-wrapped with impregnated crushed-paper armor to provide maximum dielectric and mechanical strength. Check PVX at your local G-E distributor's, or check box (D) in the coupon.

Silence Makes Sales

In homes, stores, plants, offices, and hospitals, the silent General Electric mercury switch is a selling feature hard to beat.

Demonstrate it. Show customers how smooth—how quiet it is. Tell them it stays on the job for more than a million ON-OFF cycles. Yes, you'll find extra "sell," extra quality in General Electric mercury switches. Check box (E) in coupon for complete information.

Section K1-12
Construction Materials Department
General Electric Company
Bridgeport 2, Connecticut

Please send me free information on:

- ☐ A Remote Control
☐ B AWA Cables
☐ C White Rigid Conduit
☐ D PVX Cable
☐ E Mercury Switch

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

GENERAL  ELECTRIC



Great
STERLING
1000 SANDER

Now the
Greater
PORTER-CABLE
Speedmatic-
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NEW
LOWER PRICE
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... and that means more value than ever!

When a sander as fine as the Sterling 1000 joins up with Speedmatic—the line of unmatched quality and top performance—look for this great sander to be even better.

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Outperforms hand sanding 3 to 1

In the building and construction field alone, the Speedmatic-Sterling 1000 has 31 different uses. That's 31 tedious, tiring jobs made quick and easy—jobs like finish sanding of trim, cabinets, millwork, dry wall joints, etc. This versatile tool beats hand sanding 3 to 1—and leaves a better finish every time. See one in action at your Speedmatic Tool dealer's, today.

SANDING KIT contains Speedmatic-Sterling 1000 Sander, Steel Case, Two Extra Sanding Pads, A Sponge Rubber Pad, Box of Filters, Oil and Bearing Lubricant. Complete, with 115 volt AC-DC Motor—New Low Price, \$142.

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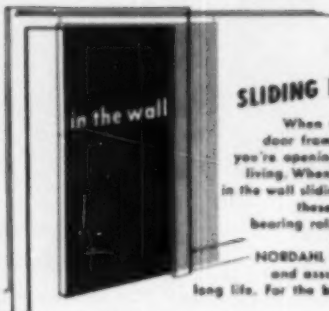
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When you incorporate sliding door frames in your construction you're opening the door to spacious living. When you specify NORDAHL in the wall sliding door frames you get these PLUS features... ball bearing rollers—metal track—and metal reinforced jamb. NORDAHL frames are trouble-free and assure quiet operation and long life. For the best, specify NORDAHL!

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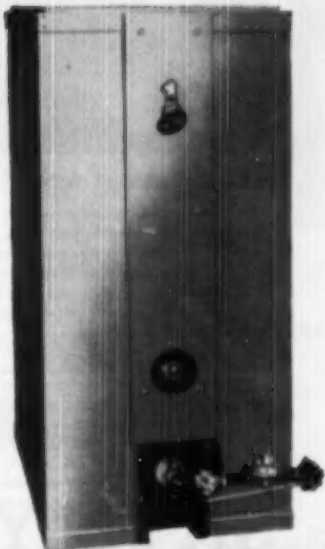
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Jackson & Church's

*Four-in-One** **BUDGET FURNACE**

designed to grow with the home

oil
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1... Proven highest efficiency for either gas or oil. Permits change-over to gas or gas to oil in conditions warranting. 2... Proven to sell competitively. 3... A space saver—adds no components to the room.

Here's a brand new heating idea... a winter air conditioner, for gas or oil, designed by J&C engineers, that requires the addition of only a component package to make it either an 85,000... a 100,000... a 112,000... or a 120,000 Btu output furnace.

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The "Four-In-One" is a quality unit... with 12 gauge heat exchanger, top quality cabinet and burner, and fully automatic controls.

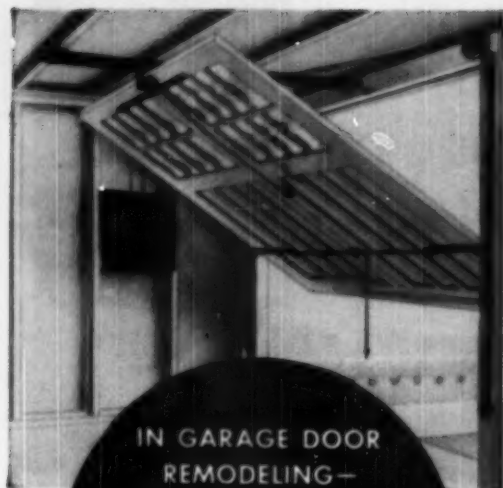
An original design... engineered, warranted and built by Jackson & Church Company.



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"Work well done since '81"



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More and more home owners are discovering how easily and economically troublesome swinging garage doors can be remodeled into smooth operating overhead doors. And dealers are enjoying fast, profitable sales on the Coburn #500 Overhead Hardware Set.

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BINDERS NOW AVAILABLE. These new binders are smart in appearance, easy to handle, made of extra heavy cardboard covered with dark blue fabrikoid which is washable and exceptionally tough and wear-resistant. AMERICAN BUILDER is embossed in gold letters on the back for ready identification.

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12 reasons FOR SELECTING QUALITY-APPROVED ALUMINUM WINDOWS



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CASEMENT



PROJECTED

is "Quality Seal"



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5 FOR ANY TYPE CONSTRUCTION—frame, brick, brick veneer, concrete block, or stucco.

6 CHOOSE FROM 3 TYPES—double-hung, casement or projected.

7 EASY TO OPEN—will not warp, swell or stick.

8 NARROW FRAMES admit more light.

9 NEUTRAL COLOR harmonizes with any color scheme.

10 ADD VISIBLE SALES APPEAL that can be seen from outside and inside.

11 ACCEPTED BY FEDERAL, State and Local Housing Authorities as a superior building product.

12 GROWING DEMAND by public for aluminum windows provides you with a real sales advantage.

To get all 12 of these advantages decide now on "Quality-Approved" aluminum windows for your next job. The quality seal assures you of windows that meet the most rigid specifications—windows that have been tested and approved by the independent Pittsburgh Testing Laboratory. For additional information write to any of the manufacturers listed below or to Dept. A-1.

*Aluminum Window
Manufacturers Association*

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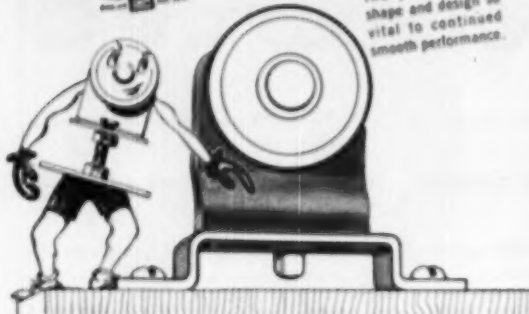
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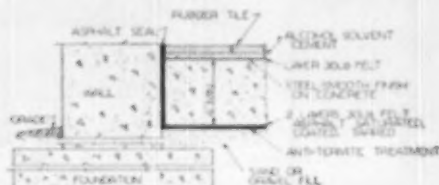
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How to Lay a Low Cost Slab for Rubber Tile

R. GRAHAM JACKSON of Jackson and Dill, architects, Houston, Texas, has developed a method for using rubber tile in homes built on a single floating concrete slab. This construction fulfills FHA specifications.

The principal problem involved in this type of construction is imposed by the hazard of dampness. Six steps are to be followed to insure satisfactory results. They are:

(1) The fill must be made of sand or gravel, since these earth products do not readily retain or absorb moisture.



CROSS SECTION

INITIAL fill and final asphalt seal, noted in section, are important parts of process for developing slab concrete base for rubber tile

(2) The area of the fill to be covered with concrete should be treated with an anti-termite solution to prevent the development of an ant bed under the concrete slab.

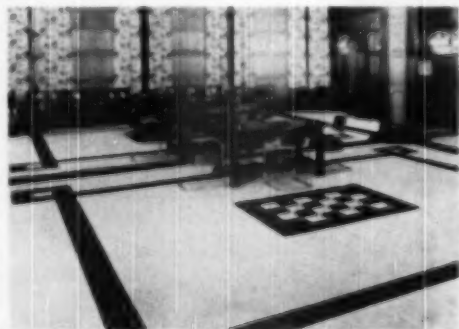
(3) A membrane of two layers of asphalt-saturated felt coated with melted asphalt is laid directly over the fill and extended vertically against the side abutments (vertical walls, foundations) well above the ground level.

(4) The concrete slab is poured with an absolute minimum of four inches of thickness.

(5) The side edges where the membrane projects or is exposed along the edges of the slab are sealed with melted asphalt.

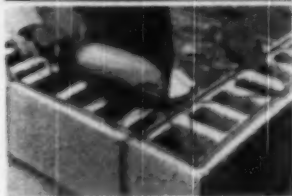
(6) The exterior grade should slope from the slab at 1:6.

After this procedure has been followed, the slab is ready for the conventional application of felt, cement, and rubber tile. Other precautions are these: the slab should have a steel-rolled finish; each section of rubber tile should be rolled to force out gas bubbles.



RUBBER tile installation in the ladies lounge of the Toronto Union Station, Toronto, Canada. The tile shown here is Wrightex installed by the Toronto Mercantile Company, a Wright Manufacturing Co. dealer.

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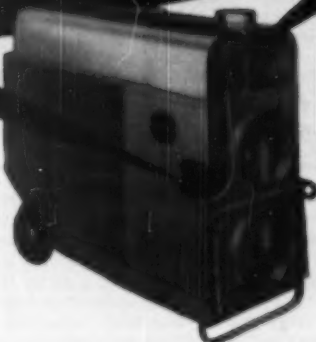
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BOOK REVIEW



JANUARY is one of those less attractive months of the year when builders, along with just about everyone else living north of Florida and Southern California, are directly concerned with the business of keeping themselves and their houses warm. Such being the case, right now seems to be a good time to discuss a pair of books that supply a lot of information on this basic problem.

HEATING, VENTILATING, AND AIR-CONDITIONING FUNDAMENTALS

By William H. Severus and Julian R. Fellows. Second edition, 676 pages, illustrated. 3-14 inches by 9 inches. John Wiley & Sons, Inc. \$5.75. See 24 on opposite page.

This volume is a thorough-going study of standard heating and ventilating practice complete with up-to-the-minute data and hundreds of easy-to-understand illustrations and diagrams. The fact that it deals with modern approved methods and equipment makes the book a good buy for readers who recognize that important changes have taken place in these fields during the past few years and that earlier works on the subject are apt to be pretty much out of date today.

As the title states, this book is more concerned with heating and ventilating fundamentals than it is with special details, which makes it all the more valuable to builders and contractors who need a sound understanding of these subjects as they pertain to general construction work, but who are not necessarily themselves engineers or heating contractors. On the other hand, engineers, contractors, and students directly concerned with heating and ventilating work will find that this is a book aimed right down their alley.

Since the authors have gone to some pains to cover all types of building heating and have supplied six chapters on various methods of home and office ventilation and air-conditioning, it is more than likely that this is a book that can be profitably used by a good many members of the building trades.

RADIANT HEATING

By T. Nager Adams. Second edition, 112 pages, illustrated. 6 inches by 9 inches. The Industrial Press. \$4.00. See 21 on opposite page.

Builders and prospective home buyers have undoubtedly asked more questions about radiant heating during the years since the war than they have about any other kind of home heating and it must be admitted that there have been times when the answers to these questions have been hard to find. However, now that Mr. Adams has brought out a revised and enlarged second edition of his authoritative book, RADIANT HEATING, there should be no uncertainty about any practical problem that might arise with regard to the design or operation of a radiant heating system.

The book contains valuable information on heat input and output, relation of mean radiant temperature and air temperature, construction details, controls, air venting, together with more than 75 charts which give proper pipe sizes and spacings for iron or steel pipe and copper tubing.

One section of this book that is certain to have its appeal at this season is the one on snow melting systems for driveways, walks, steps, etc. Another feature equally interesting but with its application in the warm months a half year from now is the chapter on radiant cooling. Supplied with that range of coverage, it is hard to see how the purchasers of this book can go wrong.

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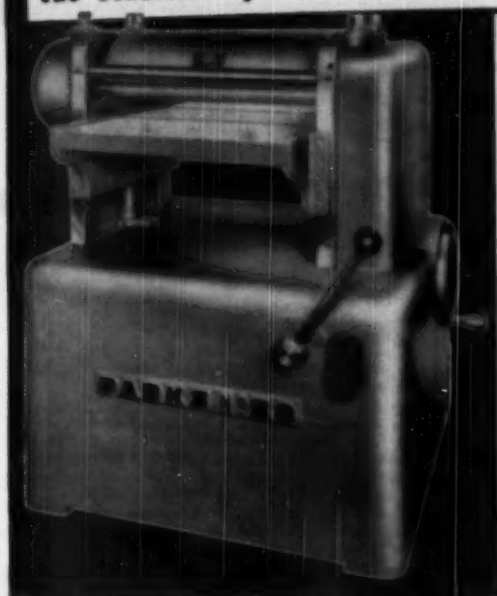
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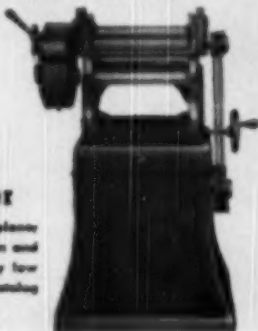


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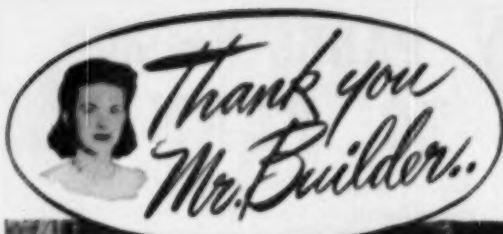
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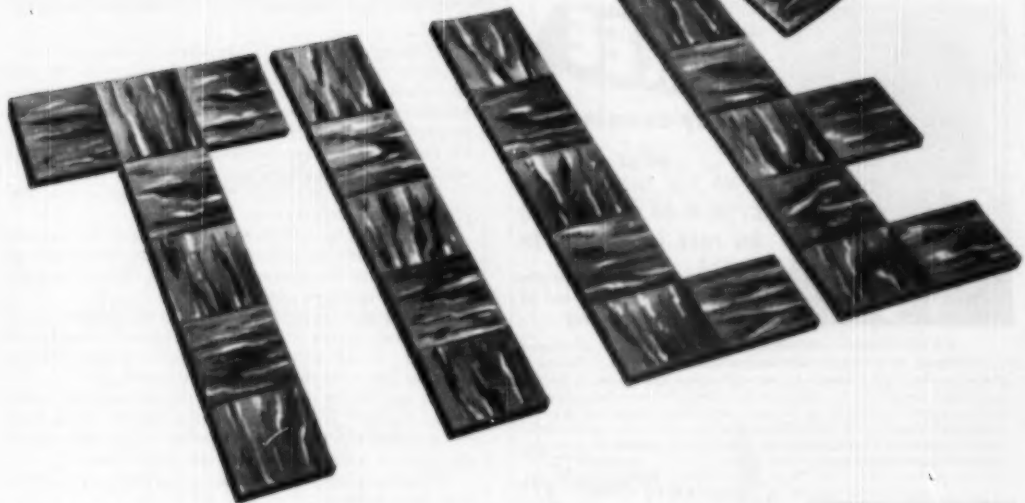
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It pays you to stock Bostwick Casings. Write today for prices and catalog.

SPECIAL CONSTRUCTION FEATURES

Bostwick No. 32 Expanded Bull Nose Casings are constructed from a single piece of rigid metal that will not warp, stretch or crack. The spring action of the angle flange holds casing tight against frame work.

A complete line of Bull Nose, Square and Modified Square Casings and O. G. are available in Expanded and Narrow Flange Styles.

THE BOSTWICK STEEL LATH COMPANY

103 HEATON AVE. • • NILES, OHIO



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offer
SEND FOR THE TAMBLIN
SYSTEM OF ESTIMATING
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● Let me show you how you
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building estimating

Hundreds of competitive bidders have been reduced to a minimum for thousands of contractors now successfully using my simple factors in preparing their cost estimates on materials and labor. I want to become your "silent consultant" by placing at your elbow, for immediate reference, the hallowed-down essence of my 40 years' experience—expressed in simple factors that require only the application of your local wage and material rates to arrive at a competitive, yet safe cost, as a basis for contracts. Mail the coupon to me today.

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MY GUARANTEE

As a reader of this publication we are warranted in sending you a copy of the complete Tamblin System for 10 days free inspection. At the end of inspection period, you may mail it back or pay \$38.75 in easy monthly payments.

Send no money—just mail this coupon.

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City _____

State _____

How Builders SELL HOMES

Sales ideas of successful builders from all parts of the country are offered in this fourth exclusive American Builder report

EDITOR'S NOTE: Questions in this series of articles are directly from letters written to W. P. "Bill" Atkinson, Oklahoma City, who conducted an inquiry to find out how successful builders sell homes. His inquiries went to both large and small builders, in every corner of the United States. And response from those inquiries contained such a valuable volume of material that he planned to present it at the 1949 NABH convention in Chicago. Because of time limitations at the panel sessions, he was unable to do so. The first article in this series presenting the reports for the first time appeared in *American Builder* in October, 1949. At the beginning of 1950, with leaders in the industry predicting increased competition in every phase of the building business, the value of an expanded knowledge of sales ideas increases.

A letter from a Sacramento, California builder, trimmed of all literary "gingerbread," starts out with this frank suggestion:

"When a property is first listed, turn on the steam right then—don't wait two or three weeks before a definite effort is made to secure a purchaser.

"Use 'sold' signs wherever possible," he advises. "There is no better business getter than a sold sign in the neighborhood."

Following are other of his concise recommendations:

"Have three or four comparable properties in each advertisement placed in the paper so that the salesman handling the advertisement will not be limited to just the property advertised. Preparation should be made prior to the time of advertising so that the salesman will be ready when the telephone rings.

"Do not show more than three properties at one time. Show the best property last.

"When showing a residence impress upon the salesman not to talk when the prospect is first ushered through the property. Give the prospect a chance to inspect the premises before starting a discussion.

"Always make an arrangement with the prospect to call back. Do not let the prospect tell the salesman that he will call later. A call back should be made not later than the morning following the showing of the property.

"Do not let the prospect limit the saleman to a particular district. If a salesman has a property he believes the prospect will be interested in, he should take him to the property without disclosing the district first.

"Refrain as much as possible from giving an address over the telephone.

"The time to put a deal through is when the prospect first shows definite interest in becoming a purchaser. Do not wait if the prospect shows any real interest in a particular property—stay with him, and do everything possible to get that deposit.

"Qualify a prospect as much as possible before taking him out in the car. Know how much he has to pay down, endeavor to find out his needs, and show him properties accordingly.

★ ★ ★

(Continued on page 196)

GILSON Mixers.....

cost less to own
and operate



YOU save money with a Gilson mixer right from the start, for low initial cost — lowest on the market — is yours with this best-engineered machine that is packed with quality construction features that you know mean added years of service and precision mixing. You'll find an extra rugged all-steel frame, oversized engine, heavy duty ball bearings, steel

precision flame-cut gear teeth — everything you'd expect only in a power loading mixer. For these good reasons, and many more, thousands of Gilson mixers are being used today by contractors everywhere — 99 models to meet your needs. Write today for an informative, well-illustrated bulletin and the name of the Gilson distributor in your community.

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Manufacturers of *Constructive Equipment Since 1888*

ALL OF US
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EXTEND TO YOU
BEST WISHES FOR
A
PROSPEROUS
New Year
in
1950

METAL ARTS MANUFACTURING COMPANY, INC.
P.O. Box 4144 = Atlanta, Ga.

Long Handle CEMENTERS' TROWELS



Highest grade spring steel blade, tempered, ground and polished. Steel mounting; first quality ash handle 7 feet long, adjustable to any position; bolt and nut.

18x5 inches	\$ 8.00
24x5 inches	9.00
30x5 inches	10.50
36x5 inches	12.50

LEVELING INSTRUMENTS

These levels are simple, accurate, durable and complete with 9 foot rod, target, plumb bob, carrying case and directions.

- No. 2 Form Level... **\$34.00**
- No. 4 Contractor's Level... **\$49.50**
- No. 5 Convertible Level, without Compass **\$71.00**
- No. 5C Convertible Level, with Compass... **\$92.00**



Long Handle Trowels and Leveling Instruments shipped Express, transportation charges collect. Immediate delivery. Send money order or check with your order.

WRITE FOR
FREE CATALOG

Send for 1950 illustrated catalog describing largest and most complete line of masonry tools for your trade, including steel mortar boxes and steel trowels.

Goldblatt Tool Co.
1912 Walnut Street Kansas City 8, Mo.

**GOLDBLATT
Tool Co.**

FIRST CHOICE ON THE TRADE FOR 45 YEARS

Value

is what SELLS
in a Buyer's Market!



Sell VALUE

of Third Grade
MFMA Northern
Hard Maple for Gran-
aries and other Farm
Buildings, Shops,
Storage Facilities,
Recreation Rooms,
Dens, Bedrooms.

These days, when building costs have brought "buyer's market" conditions into the lumber business, it's time to bear down on VALUE—simple downright VALUE! The lower prices of the Second and Third Grades of MFMA Maple Flooring offer stand-out value with no sacrifice of utility to the owner seeking to cut costs. Write for copies of the two MFMA leaflets pictured above.

MAPLE FLOORING MANUFACTURERS ASSOCIATION

Room 386, 46 Washington Boulevard
OSHKOSH, WISCONSIN

FLOOR WITH **NORTHERN** HARD MAPLE
BEECH AND BIRCH

Sell VALUE

of lower grades of
MFMA Northern Hard
Maple Flooring, for
School Class Rooms,
Gymnasiums, Resi-
dences, Public Hous-
ing, Bakeries, Factor-
ies, etc.



How Builders Sell . . .

(Continued from page 194)

EYE-CATCHING FEATURES—A builder in Bala-Cynwyd, Pennsylvania, writes that his firm was the first in the area to present a two-bathroom house in the moderate price bracket. "In addition," he stated, "we incorporated certain eye-catching features in the house—such as a stainless steel kitchen sink, aluminum windows, flush doors, stainless steel hardware, and a glass shower stall door. In our advertising, we stress the fact that we are presenting a modern home and that modern living means more comfort and greater economy."

★ ★ ★

AN AMARILLO, TEXAS, builder explains an appraisal procedure that his firm uses:

"This system," he says, "shows the customer what the house we are attempting to sell him would actually cost to reproduce. I consider that, plus a thorough knowledge of the different types of loans available, to be two of the most important weapons a salesman can have today."

DON'T RUSH THEM—"You, no doubt, remember the old days when the only sales argument that a salesman had was 'there's another prospect waiting in the office to buy this property, so you better sign up now.' . . . I think one thing a salesman should tell his customer now is that there is plenty of time for him to consider the choice of homes offered—and that he should take the time. An investment of money into home ownership should be considered very seriously, and the salesman who tutors his customers along this line is bound to create a lot of confidence.

"Of course," he continues, "all the old time-worn truths about honesty in dealings are not to be over-looked. We insist that our salesmen display an earnest desire to assist the prospect even though they know he is not qualified to buy. A proper explanation is made to the prospect, and if later he becomes qualified, we are sure to have the first chance of making the sale."

★ ★ ★

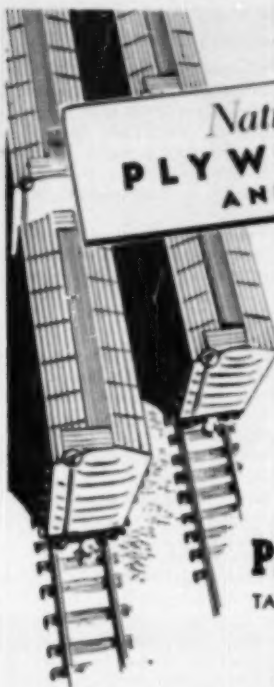
SELL BY GIVING—A Kansas City, Mo., builder says ". . . over 60 per cent of the volume of our year's business comes as a result of a friend or satisfied customer calling us and telling us of a friend or an acquaintance who is leaving the city and whose house will be for sale, or telling us of a family who intends to buy a house.

"I have asked each of our 20 salesmen to prepare a list of all of his friends' names who live away from Kansas City," he explains. "They average about 75 names apiece. I then ask them to write to each of their friends on this list at least three or four times a year. I suggest they mail them brochures that our company gets out, send them Christmas cards and personal letters. This provides us with 1,500 people throughout the United States that will think of one of our salesmen when they hear of a family moving to Kansas City. And it is just human to want to help the fellow."

"I am particularly insistent that salesmen keep in touch with owners of houses they sell. If the owner was satisfied with the home sold to him, he will recommend people to us when he hears they are moving to Kansas City. Each of our salesmen has a separate book in which he keeps a complete record of every person he has ever sold to. This makes a wonderful contact and mailing list for each man, and provides him with a clientele on which to practice the art of selling by giving.

"Some of our salesmen make it a practice to keep a separate list of every business concern in Kansas City wherein

(Continued on page 198)



Nationwide Service PLYWOOD-DOORS AND MILLWORK

KNOW-HOW—We've served the trade since 1912 and understand customers' needs.

QUALITY—Careful and conscientious guarding of standards insure dependable quality.

SERVICE—Complete stocks in five cities enable us to deliver your order as you want it.

PRICED RIGHT—Timely appreciation of market conditions—with extensive freight tariff knowledge—effects savings for you.

PACIFIC MUTUAL DOOR CO.

TACOMA BUILDING • TACOMA 2, WASHINGTON

MILLS—OREGON, WASHINGTON, CALIFORNIA

WAREHOUSES FIVE PRINCIPAL CITIES

Garwood, N. J. • Baltimore 31, Md. • Chicago 8, Ill. • Kansas City 3, Kansas • St. Paul 4, Minn.



- PLYWOOD
- Douglas Fir Doors
- Pine Doors
- Pine Plywood
- Flush Doors
- Frame Stock
- Mouldings
- INDUSTRIAL PLYWOOD MEETS TO CUSTOMER SPECIFICATION



E-Z MARK BUTT GAUGE

HANG THAT DOOR THE PROFESSIONAL WAY

Makes a clean-cut deeply etched profile. Remove chips. Repeat on jamb. Hang door!

Comes in 2", 3" and 4" (Std.) sizes. If dealer can't supply, send only \$1.85 with order. Pay postage balance plus postage C.O.D. in Canada. The higher per order. No C.O.D. State sizes wanted.

Prices: \$1.75, \$3.50, \$5.25

Comes with Leatherette Case

E-Z MARK TOOLS

P. O. Box 8377 Los Angeles 16, Calif.

Dept. A

INCREASE PRODUCTION 100% with KEN Corner LEVEL

In 15 minutes you can determine the accuracy of corners in time and effort. The **KEN CORNER LEVEL** is the greatest improvement since the original invention of the level. It will double present production during the 15 minute period of working time. Builders that saving the number of 15 minutes provided in a working day they will know what kind of production increase, you can expect with more accuracy and less effort. With the **KEN CORNER LEVEL**, the mechanic working at the same amount will locate levels in much less time than the old fashioned, level, transit, theodolite, or plumb line. With the **KEN CORNER LEVEL**, the "C" has been a "D" that the old corner level in steel, plumbing and leveling all edges, corners, and top, with a single movement.

The bubble is adjustable for plumb, level, square, or sloping surface. Level sizes 18", 24", 30", and 48". **KEN CORNER LEVEL** is facing manufacturing used by builders, masons, and carpenters, everywhere. **ORDER** from Dept. for information.

SINGER-KENNEDY CORP.

Dept. L—21 E. Van Buren St., Chicago 6, Ill.

How Does Calcium Chloride Improve COLD WEATHER CONCRETE?

"The Effects of Calcium Chloride on Portland Cement" is a semi-technical book that clearly presents the facts on the use of Calcium Chloride. It is filled with graphs, tables, charts and contains much material not heretofore available. This information will be of great interest to contractors, architects, engineers, plant operators and men in allied fields. For your copy, write on your company letterhead to the address below.

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Calcium Chloride

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- SPEEDS STRENGTH
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ALLIED CHEMICAL & DYE CORPORATION

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KIMBALL
Light Electric Elevator

Send for free literature and price

SINCE 1883
KIMBALL
HAS MADE
GOOD ELEVATORS

PASSENGER ELEVATORS FREIGHTS
Rapid Power Electric Hydraulic

KIMBALL BROTHERS COMPANY

BOX 501 COUNCIL BLUFFS, IOWA

What a World of Difference CANVAS AWNINGS

make in

*Livability...
Salability!*

Nothing that costs so little adds so much to the beauty, comfort and livability of a home. Interpreted in terms of Desirability — and Salability — Canvas Awnings represent one of the most profitable items in your business.

Canvas Awning manufacturers offer you widest selections of fabrics, designs and patterns to satisfy all needs and individual tastes.



THE CANVAS AWNING INSTITUTE, INC.
AND NATIONAL COTTON COUNCIL

"There is No Substitute for Canvas Awnings"

How Builders Sell . . .

(Continued from page 196)

they have made a sale," this builder continues. "They keep in constant touch with individuals for other prospects in that company. We recently made a check of all employees of a firm that live in one of our subdivisions, for example. We found there were 39 families from that one company. We then took a plat of this subdivision and marked on it the location of each resident—his name, address in the project, and his position with firm X.

"I am now mailing three or four copies of this plat to each of the 39 families, and giving the plats broad distribution through direct mail to all employees of X firm who live in Kansas City.

★ ★ ★

GIVE THE BEST YOU HAVE—"There was an old poem that applies to building," says a Dallas, Texas, builder. "Give the world the best you have, and the best will come back to you."

"This," he wrote, "is the same old story of building a better mouse trap and having the world beat a path to your door, though you live in the forest."

In addition, he offers these five suggestions: (1) Select a first class location, especially as to future desirability, insuring appreciation on the part of the home owner.

(2) Properly adapt the house to the location.

(3) Build a quality home, regardless of sales price. Stress honest construction.

(4) Make honest and forthright statements of every fact concerning construction of the house, also regarding the neighborhood, utilities, and all other related factors.

(5) Tell bad news first. "This tends to establish confidence in the seller," he says, "and it will help discount unfavorable circumstances to some extent."

★ ★ ★

DESIGN HAS SELLING POWER—"Give your new homes the necessaryumph—picture windows, patios, porches, various types of exterior treatment, by using stone, brick, shingles and good quality siding," suggests a South Bend, Ind. builder. His other suggestions:

"Keep homes under construction in order at all times so that the public can actually make inspections and see that the work is in order and the best care taken of materials.

"Homes should be clean at completion, ready to invite the prospective purchaser to move in: clean basement, all plumbing clean, windows and storm sash clean, floors waxed, attractive grounds with all debris removed from lot, garage clean, sidewalks clean, with a neat appearing 'For Sale' sign displaying the builder's name."

★ ★ ★

NATIONALLY ADVERTISED PRODUCTS—helpful, says this builder. "We are of the opinion that selling features of nationally advertised equipment going into the home are very helpful.

"In order that the builder may secure best possible financing for the purchaser we feel it is necessary to get conditional commitments ahead of construction from FHA on all properties built on a speculative basis. It greatly assists the seller in quoting a definite down payment as soon as the selling price can be determined.

"We think builders should have a service policy on new homes for a definite length of time, whether it be for two months or a year, we feel that it is of value."

NAHB CONVENTION
Feb. 19 to 23
Chicago

The EZWAY FOLDING STAIRWAY

means
PROFITS
in the
ATTIC
for you!

Readily saleable wherever people have inaccessible attic space. Installed in homes, garages, summer cottages. Practical and inexpensive. Easy to sell—install—operate.

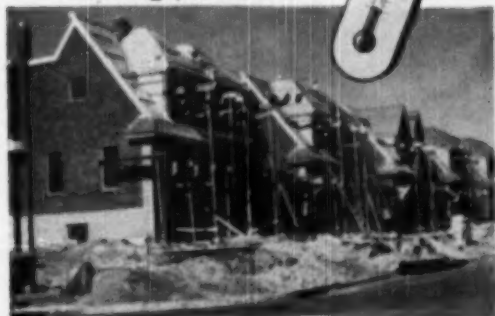
Write today for literature.



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BOX 518 ST. PAUL PARK MINNESOTA

WATERPROOF IN FREEZING WEATHER!

with **CRYSTAL**
Silicone Water Repellent
Non-Freezing!
Lastingly Effective!



Construction jobs are speeded up in cold weather with **CRYSTAL** exterior waterproofing... applied quickly by brush or spray on dry brick, stone, concrete block—AT TEMPERATURES BELOW FREEZING!

Only **CRYSTAL** has all these advantages: **CRYSTAL** penetrates, waterproofs entire depth. One gallon covers 100 to 200 sq. ft. of surface. **TRANSPARENT.** Invisible after application. Will not change surface color, texture. **STAINPROOF.** Makes surfaces maintenance-free.

Send for detailed information and literature

WURDACK CHEMICAL COMPANY
4956 Pyle Ave. St. Louis 9, Mo.

HOME BUILDERS AND ALLIED INTERESTS

RESERVATIONS
ARE POURING IN!

WILL YOU BE THERE?

NATIONAL ASSOCIATION OF HOME BUILDERS
CONVENTION AND EXPOSITION
CHICAGO FEB. 19-23



WHY THOUSANDS ATTEND
YEAR AFTER YEAR

IT PAYS THREE WAYS

Listen! Act! See!!! Listen to other progressive builders from coast to coast. Act with them in trying to solve many perplexing problems. See a tremendous Exposition. Displays and demonstrations exhibited by more than 160 manufacturers will make it convenient for you to know all of the proved new products and services quickly and pleasantly. One section will be devoted to the showing of entirely new products and developments. Don't forget the fun. An ex-

cellent program of entertainment has been planned. You will value the week with the NABH in Chicago all year. It's all planned for your benefit. It's a three-way bargain. The ladies will enjoy the special program arranged for them.

Register Now! Use coupon! Advance registration of \$12.50 for men, \$7.50 for women, must be sent with hotel reservation request. Confirmation and registration certificate will be mailed to you at once. Make checks payable to National Association of Home Builders. If registration is for more than one person, please give, on a separate sheet, names, addresses, business classifications and dates of arrival.



REGISTER BY MAIL

National Association of Home Builders
Convention & Exposition Headquarters
111 W. Jackson Blvd., Chicago 4, Ill.
Dept. A

Enclosed find my check for \$.....
Please make hotel reservations for arrival February.....

NAME _____
STREET _____
CITY _____ STATE _____
BUSINESS _____

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THE

"OVERHEAD DOOR"

TRADE MARK

**WITH THE
MIRACLE WEDGE**



Greetings for 1950...
and a RESOLUTION!

Architect's Specifications
Doors shall be "OVERHEAD DOORS" with the
Miracle Wedge as manufactured by Overhead
Door Corporation, Hartford City, Indiana.
They shall be equipped with tracks and hard-
ware of Salt Spray Steel, and shall be Doors
Nos. of a size and design
as shown on the plans.

With the outlook for building in 1950 bright, we of Overhead Door Corporation renew our resolve to supply architects, builders and contractors always with the best in doors. For the complete satisfaction of your clients, resolve always to specify this quality door. The "OVERHEAD DOOR" with the Miracle Wedge, in building or remodeling industrial, commercial, residential, and rural structures!

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YOU CAN DEPEND ON...

- **QUALITY**—Best grades of material and workmanship.
- **PACKING**—All items are neatly packaged with the proper number of screws, etc.
- **POPULARITY**—National Builders' Hardware gives uniform satisfaction to the customer.

No. 86 Noise-Less Storm Sash Adjuster Set. This is one of the items of the National line of dependable Builders' Hardware which will help you succeed in 1950. When closed, the Adjuster locks sash. When open, it holds storm sash firmly and silently in any desired position. Made of heavy gauge steel with solid-brass disengaging lock. Top sash can be lowered all the way down without interference from Adjuster. The friction washers are noiseless-proof. Adjusting bolt has an S.A.E. fine thread. Marks right—and left—hand and they are so marked. Size, 12 inches over all.

Packed one set in a box with $\frac{1}{4}$ x 7 oval-head screws. Each set consists of one pair of No. 86 Noise-Less Storm Sash Adjusters—one right and one left—and one No. 200 Pin. Furnished in Chrome Finish only.



No. 86 Noise-Less Storm Sash Adjuster Set

See Your National Dealer

Ask to see
the National Wall
Chart which shows
the complete line of
National Builders'
Hardware.



NATIONAL MANUFACTURING CO.
Sterling Illinois